```
a cag gac gct gta gct tca aaa atc tta gga ttg cct acg cag act gtt  49
  Gln Asp Ala Val Ala Ser Lys Ile Leu Gly Leu Pro Thr Gln Thr Val
  1                   5                   10                  15
gat tca tca cag ggt tct gaa tat gac tat gtc ata ttc aca caa act  97
Asp Ser Ser Gln Gly Ser Glu Tyr Asp Tyr Val Ile Phe Thr Gln Thr
              20                  25                  30
act gaa aca gca cac tct tgt aat gtc aac cgc ttc aat gtg gct atc  145
Thr Glu Thr Ala His Ser Cys Asn Val Asn Arg Phe Asn Val Ala Ile
          35                  40                  45
aca agg gca aaa att ggc att ttg tgc ata atg tct gat aga gat ctt  193
Thr Arg Ala Lys Ile Gly Ile Leu Cys Ile Met Ser Asp Arg Asp Leu
      50                  55                  60
tat gac aaa ctg caa ttt aca agt cta gaa ata cca cgt cgc aat gtg  241
Tyr Asp Lys Leu Gln Phe Thr Ser Leu Glu Ile Pro Arg Arg Asn Val
65                  70                  75                  80
gct aca tta caa gca gaa aat gta act gga ctt ttt aag gac tgt agt  289
Ala Thr Leu Gln Ala Glu Asn Val Thr Gly Leu Phe Lys Asp Cys Ser
                  85                  90                  95
aag atc att act ggt ctt cat cct aca cag gca cct aca cac ctc agc  337
Lys Ile Ile Thr Gly Leu His Pro Thr Gln Ala Pro Thr His Leu Ser
              100                 105                 110
gtt gat ata aaa ttc aag act gaa gga tta tgt gtt gac ata cca ggc  385
Val Asp Ile Lys Phe Lys Thr Glu Gly Leu Cys Val Asp Ile Pro Gly
          115                 120                 125
ata cca aag gac atg acc tac cgt aga ctc atc tct atg atg ggt ttc  433
Ile Pro Lys Asp Met Thr Tyr Arg Arg Leu Ile Ser Met Met Gly Phe
      130                 135                 140
aaa atg aat tac caa gtc aat ggt tac cct aat atg ttt atc acc cgc  481
Lys Met Asn Tyr Gln Val Asn Gly Tyr Pro Asn Met Phe Ile Thr Arg
145                 150                 155                 160
gaa gaa gct att cgt cac gtt cgt gcg tgg att ggc ttt gat gta gag  529
Glu Glu Ala Ile Arg His Val Arg Ala Trp Ile Gly Phe Asp Val Glu
                  165                 170                 175
ggc tgt cat gca act aga gat gct gtg ggt act aac cta cct ctc cag  577
Gly Cys His Ala Thr Arg Asp Ala Val Gly Thr Asn Leu Pro Leu Gln
              180                 185                 190
cta gga ttt tct aca ggt gtt aac tta gta gct gta ccg act ggt tat  625
Leu Gly Phe Ser Thr Gly Val Asn Leu Val Ala Val Pro Thr Gly Tyr
              195                 200                 205
gtt gac act gaa aat aac cta                                        646
Val Asp Thr Glu Asn Asn Leu
      210                 215
```
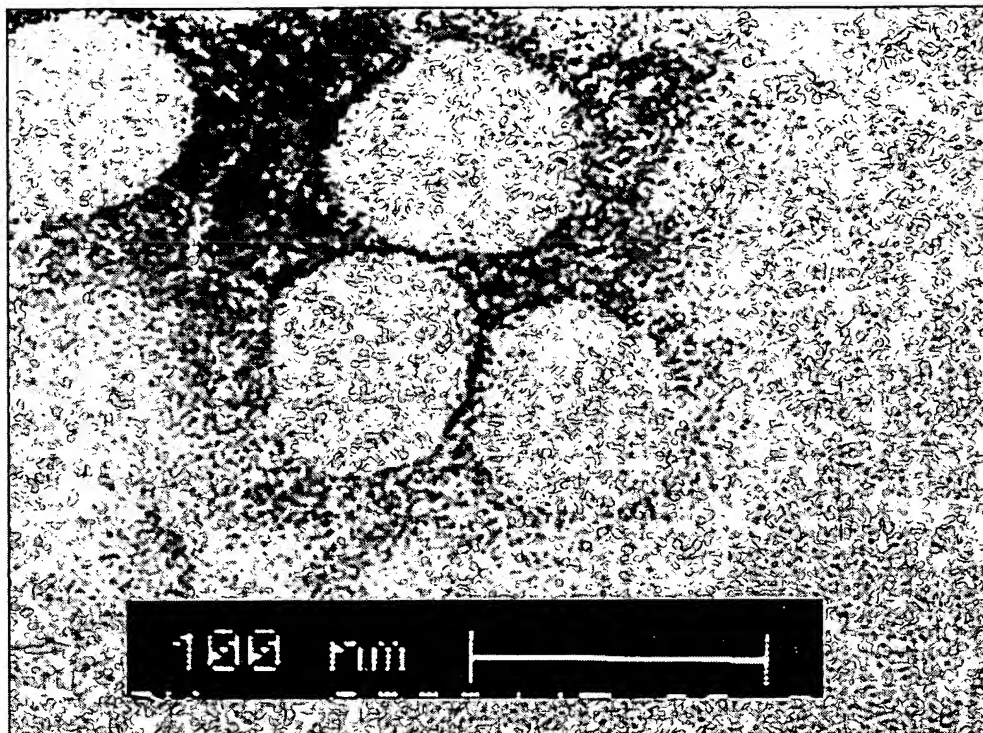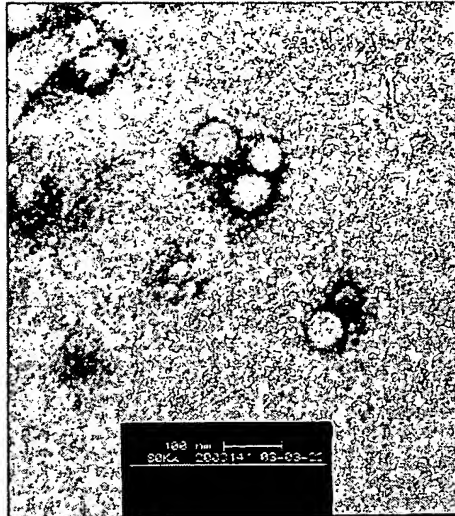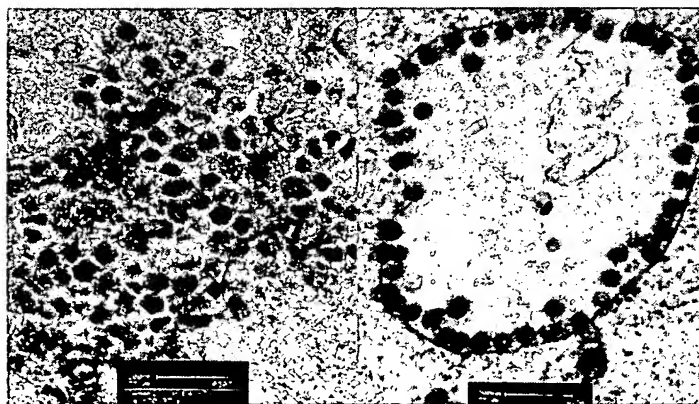
FIG. 1

100 nm

FIG. 2

FIG. 3

FIG. 4

FIG. 5A   **FIG. 5B**

		Group	Accession number
Murine hepatitis virus strain ML-11		2	AAF68920
Murine hepatitis virus		2	AAF69332
Murine hepatitis virus strain 2		2	AAF19384
Murine hepatitis virus		2	NP_068668
Murine hepatitis virus (strain JHM)		2	VFIHJH
Bovine coronavirus		2	AAK83365
Bovine coronavirus		2	AAL40397
SARS virus, Hong Kong isolate			
Avian infectious bronchitis virus		3	NP_066134
Avian infectious bronchitis virus (strain Beaudette CK)		3	CAC39112
Transmissible gastroenteritis virus		1	NP_058422
Human coronavirus 29E		1	NP_073549
Porcine epidemic diarrhea virus		1	NP_598309

FIG. 6

FIG. 7A

FIG. 7B

```
t aaa tgt agt aga atc ata cct gcg cgt gcg cgc gta gag tgt ttt gat    49
  Lys Cys Ser Arg Ile Ile Pro Ala Arg Ala Arg Val Glu Cys Phe Asp
  1               5                   10                  15


aaa ttc aaa gtg aat tca aca cta gaa cag tat gtt ttc tgc act gta     97
Lys Phe Lys Val Asn Ser Thr Leu Glu Gln Tyr Val Phe Cys Thr Val
            20                  25                  30


aat gca ttg cca gaa aca act gct gac att gta gtc ttt gat gaa atc    145
Asn Ala Leu Pro Glu Thr Thr Ala Asp Ile Val Val Phe Asp Glu Ile
            35                  40                  45


tct atg gct act aat tat gac ttg agt gtt gtc aat gct aga ctt cgt    193
Ser Met Ala Thr Asn Tyr Asp Leu Ser Val Val Asn Ala Arg Leu Arg
    50                  55                  60


gca aaa cac tac gtc tat att ggc gat cct gct caa tta cca gcc ccc    241
Ala Lys His Tyr Val Tyr Ile Gly Asp Pro Ala Gln Leu Pro Ala Pro
65                  70                  75                  80


cgc aca ttg ctg act aaa ggc aca cta gaa cca gaa tat ttt aat tca    289
Arg Thr Leu Leu Thr Lys Gly Thr Leu Glu Pro Glu Tyr Phe Asn Ser
            85                  90                  95


gtg tgc aga ctt atg aaa aca ata ggt cca gac atg ttc ctt gga act    337
Val Cys Arg Leu Met Lys Thr Ile Gly Pro Asp Met Phe Leu Gly Thr
            100                 105                 110


tgt cgc cgt tgt cct gct gaa att gtt gac act gtg agt gct tta gtt    385
Cys Arg Arg Cys Pro Ala Glu Ile Val Asp Thr Val Ser Ala Leu Val
            115                 120                 125


tat gac aat aag cta aaa gca cac aag gag aag tca gct caa tgc ttc    433
Tyr Asp Asn Lys Leu Lys Ala His Lys Glu Lys Ser Ala Gln Cys Phe
    130                 135                 140


aaa atg ttc tac aaa ggt gtt att aca cat gat gtt tca tct gca atc    481
Lys Met Phe Tyr Lys Gly Val Ile Thr His Asp Val Ser Ser Ala Ile
145                 150                 155                 160


aac aga cct caa ata ggc gtt gta aga gaa ttt ctt aca cgc aat cct    529
Asn Arg Pro Gln Ile Gly Val Val Arg Glu Phe Leu Thr Arg Asn Pro
            165                 170                 175

gct tgg aga aaa gct gtt ttt atc tca cct tat aat tca cag aac gct    577
Ala Trp Arg Lys Ala Val Phe Ile Ser Pro Tyr Asn Ser Gln Asn Ala
            180                 185                 190


gta gct tca aaa atc tta gga ttg cct acg cag act gtt gat tca tca    625
Val Ala Ser Lys Ile Leu Gly Leu Pro Thr Gln Thr Val Asp Ser Ser
            195                 200                 205


cag ggt tct gaa tat gac tat gtc ata ttc aca caa act act gaa aca    673
Gln Gly Ser Glu Tyr Asp Tyr Val Ile Phe Thr Gln Thr Thr Glu Thr
    210                 215                 220
```

FIG. 8

```
gca cac tct tgt aat gtc aac cgc ttc aat gtg gct atc aca agg gca    721
Ala His Ser Cys Asn Val Asn Arg Phe Asn Val Ala Ile Thr Arg Ala
225             230             235             240

aaa att ggc att ttg tgc ata atg tct gat aga gat ctt tat gac aaa    769
Lys Ile Gly Ile Leu Cys Ile Met Ser Asp Arg Asp Leu Tyr Asp Lys
            245             250             255

ctg caa ttt aca agt cta gaa ata cca cgt cgc aat gtg gct aca tta    817
Leu Gln Phe Thr Ser Leu Glu Ile Pro Arg Arg Asn Val Ala Thr Leu
        260             265             270

caa gca gaa aat gta act gga ctt ttt aag gac tgt agt aag atc att    865
Gln Ala Glu Asn Val Thr Gly Leu Phe Lys Asp Cys Ser Lys Ile Ile
        275             280             285

act ggt ctt cat cct aca cag gca cct aca cac ctc agc gtt gat ata    913
Thr Gly Leu His Pro Thr Gln Ala Pro Thr His Leu Ser Val Asp Ile
        290             295             300

aaa ttc aag act gaa gga tta tgt gtt gac ata cca ggc ata cca aag    961
Lys Phe Lys Thr Glu Gly Leu Cys Val Asp Ile Pro Gly Ile Pro Lys
305             310             315             320

gac atg acc tac cgt aga ctc atc tct atg atg ggt ttc aaa atg aat    1009
Asp Met Thr Tyr Arg Arg Leu Ile Ser Met Met Gly Phe Lys Met Asn
            325             330             335

tac caa gtc aat ggt tac cct aat atg ttt atc acc cgc gaa gaa gct    1057
Tyr Gln Val Asn Gly Tyr Pro Asn Met Phe Ile Thr Arg Glu Glu Ala
            340             345             350

att cgt cac gtt cgt gcg tgg att ggc ttt gat gta gag ggc tgt cat    1105
Ile Arg His Val Arg Ala Trp Ile Gly Phe Asp Val Glu Gly Cys His
        355             360             365

gca act aga gat gct gtg ggt act aac cta cct ctc cag cta gga ttt    1153
Ala Thr Arg Asp Ala Val Gly Thr Asn Leu Pro Leu Gln Leu Gly Phe
        370             375             380

tct aca ggt gtt aac tta gta gct gta ccg act ggt tat gtt gac act    1201
Ser Thr Gly Val Asn Leu Val Ala Val Pro Thr Gly Tyr Val Asp Thr
385             390             395             400

gaa aat aac cta                                                    1213
Glu Asn Asn Leu
```

FIG. 8 Con't

```
c aga acc atg cct aac atg ctt agg ata atg gcc tct ctt gtt ctt gct    49
  Arg Thr Met Pro Asn Met Leu Arg Ile Met Ala Ser Leu Val Leu Ala
  1               5                   10                  15

cgc aaa cat aac act tgc tgt aac tta tca cac cgt ttc tac agg tta       97
Arg Lys His Asn Thr Cys Cys Asn Leu Ser His Arg Phe Tyr Arg Leu
            20              25                  30

gct aac gag tgt gcg caa gta tta agt gag atg gtc atg tgt ggc ggc      145
Ala Asn Glu Cys Ala Gln Val Leu Ser Glu Met Val Met Cys Gly Gly
        35                  40                  45

tca cta tat gtt aaa cca ggt gga aca tca tcc ggt gat gct aca act      193
Ser Leu Tyr Val Lys Pro Gly Gly Thr Ser Ser Gly Asp Ala Thr Thr
    50                  55                  60

gct tat gct aat agt gtc ttt aac att tgt caa gct gtt aca gcc aat      241
Ala Tyr Ala Asn Ser Val Phe Asn Ile Cys Gln Ala Val Thr Ala Asn
65                  70                  75                  80

gta aat gca ctt ctt tca act gat ggt aat aag ata gct gac aag tat      289
Val Asn Ala Leu Leu Ser Thr Asp Gly Asn Lys Ile Ala Asp Lys Tyr
            85                  90                  95

gtc cgc aat cta caa cac agg ctc tat gag tgt ctc tat aga aat agg      337
Val Arg Asn Leu Gln His Arg Leu Tyr Glu Cys Leu Tyr Arg Asn Arg
            100                 105                 110

gat gtt gat cat gaa ttc gtg gat gag ttt tac gct tac ctg cgt aaa      385
Asp Val Asp His Glu Phe Val Asp Glu Phe Tyr Ala Tyr Leu Arg Lys
        115                 120                 125

cat ttc tcc atg atg att ctt tct gat gat gcc gtt gtg tgc tat aac      433
His Phe Ser Met Met Ile Leu Ser Asp Asp Ala Val Val Cys Tyr Asn
    130                 135                 140

agt aac tat gcg gct caa ggt tta gta gct agc att aag aac ttt aag      481
Ser Asn Tyr Ala Ala Gln Gly Leu Val Ala Ser Ile Lys Asn Phe Lys
145                 150                 155                 160

gca gtt ctt tat tat caa aat aat gtg ttc atg tct gag gca aaa tgt      529
Ala Val Leu Tyr Tyr Gln Asn Asn Val Phe Met Ser Glu Ala Lys Cys
                165                 170             S   175

tgg act gag act gac ctt act aaa gga cct cac gaa ttt tgc tca cag      577
Trp Thr Glu Thr Asp Leu Thr Lys Gly Pro His Glu Phe Cys Ser Gln
            180                 185                 190

cat aca atg cta gtt aaa caa gga gat gat tac gtg tac ctg cct tac      625
His Thr Met Leu Val Lys Gln Gly Asp Asp Tyr Val Tyr Leu Pro Tyr
            195                 200                 205

cca gat cca tca aga ata tta ggc gca ggc tgt ttt gtc gat gat att      673
Pro Asp Pro Ser Arg Ile Leu Gly Ala Gly Cys Phe Val Asp Asp Ile
    210                 215                 220

gtc aaa cag atg gta cac tta tga ttg aaa ggt tcc gtg tca ctg gct      721
Val Lys Gln Met Val His Leu
225                 230

att gat gc                                                          729
```

FIG. 9

```
   1 atattaggtt tttacctacc caggaaaagc caaccaacct cgatctcttg tagatctgtt
  61 ctctaaacga actttaaaat ctgtgtagct gtcgctcggc tgcatgccta gtgcacctac
 121 gcagtataaa caataataaa ttttactgtc gttgacaaga aacgagtaac tcgtccctct
 181 tctgcagact gcttacggtt tcgtccgtgt tgcagtcgat catcagcata cctaggtttc
 241 gtccgggtgt gaccgaaagg taagatggag agccttgttc ttggtgtcaa cgagaaaaca
 301 cacgtccaac tcagtttgcc tgtccttcag gttagagacg tgctagtgcg tggcttcggg
 361 gactctgtgg aagaggccct atcggaggca cgtgaacacc tcaaaaatgg cacttgtggt
 421 ctagtagagc tggaaaaagg cgtactgccc cagcttgaac agccctatgt gttcattaaa
 481 cgttctgatg ccttaagcac caatcacggc cacaaggtcg ttgagctggt tgcagaaatg
 541 gacggcattc agtacggtcg tagcggtata acactgggag tactcgtgcc acatgtgggc
 601 gaaaccccaa ttgcataccg caatgttctt cttcgtaaga acggtaataa gggagccggt
 661 ggtcatagct atggcatcga tctaaagtct tatgacttag gtgacgagct tggcactgat
 721 cccattgaag attatgaaca aaactggaac actaagcatg gcagtggtgc actccgtgaa
 781 ctcactcgtg agctcaatgg aggtgcagtc actcgctatg tcgacaacaa tttctgtggc
 841 ccagatgggt accctcttga ttgcatcaaa gattttctcg cacgcgcggg caagtcaatg
 901 tgcactcttt ccgaacaact tgattacatc gagtcgaaga gaggtgtcta ctgctgccgt
 961 gaccatgagc atgaaattgc ctggttcact gagcgctctg ataagagcta cgagcaccag
1021 acacccttcg aaattaagag tgccaagaaa tttgacactt caaaggggga atgcccaaag
1081 tttgtgtttc ctcttaactc aaaagtcaaa gtcattcaac cacgtgttga aaagaaaaag
1141 actgagggtt tcatggggcg tatacgctct gtgtaccctg ttgcatctcc acaggagtgt
1201 aacaatatgc acttgtctac cttgatgaaa tgtaatcatt gcgatgaagt ttcatggcag
1261 acgtgcgact ttctgaaagc cacttgtgaa cattgtggca ctgaaaattt agttattgaa
1321 ggacctacta catgtgggta cctacctact aatgctgtag tgaaaatgcc atgtcctgcc
1381 tgtcaagacc cagagattgg acctgagcat agtgttgcag attatcacaa ccactcaaac
1441 attgaaactc gactccgcaa gggaggtagg actagatgtt ttggaggctg tgtgtttgcc
1501 tatgttggct gctataataa gcgtgcctac tgggttcctc gtgctagtgc tgatattggc
1561 tcaggccata ctggcattac tggtgacaat gtggagacct gaatgagga tctccttgag
1621 atactgagtc gtgaacgtgt taacattaac attgttggcg attttcattt gaatgaagag
1681 gttgccatca ttttggcatc tttctctgct tctacaagtg cctttattga cactataaag
1741 agtcttgatt acaagtcttt caaaaccatt gttgagtcct gcggtaacta taaagttacc
1801 aagggaaagc ccgtaaaagg tgcttggaac attggacaac agagatcagt tttaacacca
1861 ctgtgtggtt ttccctcaca ggctgctggt gttatcagat caatttttgc gcgcacactt
1921 gatgcagcaa accactcaat tcctgatttg caaagagcag ctgtcaccat acttgatggt
1981 atttctgaac agtcattacg tcttgtcgac gccatggttt atacttcaga cctgctcacc
2041 aacagtgtca ttattatggc atatgtaact ggtggtcttg tacaacagac ttctcagtgg
2101 ttgtctaatc ttttgggcac tactgttgaa aaactcaggc ctatctttga atggattgag
2161 gcgaaactta gtgcaggagt tgaatttctc aaggatgctt gggagattct caaatttctc
2221 attacaggtg tttttgacat cgtcaagggt caaatacagg ttgcttcaga taacatcaag
2281 gattgtgtaa aatgcttcat tgatgttgtt aacaaggcac tcgaaatgtg cattgatcaa
2341 gtcactatcg ctggcgcaaa gttgcgatca ctcaacttag gtgaagtctt catcgctcaa
2401 agcaagggac tttaccgtca gtgtatacgt ggcaaggagc agctgcaact actcatgcct
2461 cttaaggcac caaaagaagt aaccttctt gaaggtgatt cacatgacac agtacttacc
2521 tctgaggagg ttgttctcaa gaacggtgaa ctcgaagcac tcgagacgcc cgttgatagc
2581 ttcacaaatg gagctatcgt cggcacacca gtctgtgtaa atggcctcat gctcttagag
2641 attaaggaca agaacaata ctgcgcattg tctcctggtt tactggctac aaacaatgtc
2701 tttcgcttaa aagggggtgc accaattaaa ggtgtaacct ttggagaaga tactgtttgg
2761 gaagttcaag gttacaagaa tgtgagaatc acatttgagc ttgatgaacg tgttgacaaa
2821 gtgcttaatg aaaagtgctc tgtctacact gttgaatccg gtaccgaagt tactgagttt
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3001 ggtgaagaaa actttttcatc acgtatgtat tgttcctttt accctccaga tgaggaagaa
3061 gaggacgatg cagagtgtga ggaagaagaa attgatgaaa cctgtgaaca tgagtacggt
3121 acagaggatg attatcaagg tctccctctg gaatttggtg cctcagctga aacagttcga
3181 gttgaggaag aagaagagga agactggctg gatgatacta ctgagcaatc agagattgag
3241 ccagaaccag aacctacacc tgaagaacca gttaatcagt ttactggtta tttaaaactt
3301 actgacaatg ttgccattaa atgtgttgac atcgttaagg aggcacaaag tgctaatcct
```

FIG. 10

```
3361 atggtgattg taaatgctgc taacatacac ctgaaacatg gtggtggtgt agcaggtgca
3421 ctcaacaagg caaccaatgg tgccatgcaa aaggagagtg atgattacat taagctaaat
3481 ggccctctta cagtaggagg gtcttgtttg ctttctggac ataatcttgc taagaagtgt
3541 ctgcatgttg ttggacctaa cctaaatgca ggtgaggaca tccagcttct taaggcagca
3601 tatgaaaatt tcaattcaca ggacatctta cttgcaccat tgttgtcagc aggcatattt
3661 ggtgctaaac cacttcagtc tttacaagtg tgcgtgcaga cggttcgtac acaggtttat
3721 attgcagtca atgacaaagc tctttatgag caggttgtca tggattatct tgataacctg
3781 aagcctagag tggaagcacc taaacaagag gagccaccaa acacagaaga ttccaaaact
3841 gaggagaaat ctgtcgtaca gaagcctgtc gatgtgaagc caaaaattaa ggcctgcatt
3901 gatgaggtta ccacaacact ggaagaaact aagtttctta ccaataagtt actcttgttt
3961 gctgatatca atggtaagct ttaccatgat tctcagaaca tgcttagagg tgaagatatg
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4081 acttgtgttg taataccctc caaaaaggct ggtggcacta ctgagatgct ctcaagagct
4141 ttgaagaaag tgccagttga tgagtatata accacgtacc ctggacaagg atgtgctggt
4201 tatacacttg aggaagctaa gactgctctt aagaaatgca aatctgcatt ttatgtacta
4261 ccttcagaag cacctaatgc taaggaagag attctaggaa ctgtatcctg gaatttgaga
4321 gaaatgcttg ctcatgctga agagacaaga aaattaatgc ctatatgcat ggatgttaga
4381 gccataatgg caaccatcca acgtaagtat aaaggaatta aaattcaaga gggcatcgtt
4441 gactatggtg tccgattctt cttttatact agtaaagagc ctgtagcttc tattattacg
4501 aagctgaact ctctaaatga gccgcttgtc acaatgccaa ttggttatgt gacacatggt
4561 tttaatcttg aagaggctgc gcgctgtatg cgttctctta agctcctgc cgtagtgtca
4621 gtatcatcac cagatgctgt tactacatat aatggatacc tcacttcgtc atcaaagaca
4681 tctgaggagc actttgtaga aacagtttct ttggctggct cttacagaga ttggtcctat
4741 tcaggacagc gtacagagtt aggtgttgaa tttcttaagc gtggtgacaa aattgtgtac
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4861 ctaaagagtc tcttatccct gcgggaggtt aagactataa aagtgttcac aactgtggac
4921 aacactaatc tccacacaca gcttgtggat atgtctatga catatggaca gcagtttggt
4981 ccaacatact ggatggtgc tgatgttaca aaaattaaac ctcatgtaaa tcatgagggt
5041 aagactttct ttgtactacc tagtgatgac acactacgta gtgaagcttt cgagtactac
5101 catactcttg atgagagttt tcttggtagg tacatgtctg ctttaaacca cacaaagaaa
5161 tggaaatttc ctcaagttgg tggtttaact tcaattaaat gggctgataa caattgttat
5221 ttgtctagtg ttttattagc acttcaacag cttgaagtca aattcaatgc accagcactt
5281 caagaggctt attatagagc ccgtgctggt gatgctgcta cttttgtgc actcatactc
5341 gcttacagta ataaaactgt tggcgagctt ggtgatgtca gagaaactat gacccatctt
5401 ctacagcatg ctaatttgga atctgcaaag cgagttctta atgtggtgtg taaacattgt
5461 ggtcagaaaa ctactacctt aacgggtgta gaagctgtga tgtatatggg tactctatct
5521 tatgataatc ttaagacagg tgtttccatt ccatgtgtgt gtggtcgtga tgctacacaa
5581 tatctagtac aacaagagtc ttcttttgtt atgatgtctg caccacctgc tgagtataaa
5641 ttacagcaag gtacattctt atgtgcgaat gagtacactg gtaactatca gtgtggtcat
5701 tacactcata taactgctaa ggagaccctc tatcgtattg acggagctca ccttacaaag
5761 atgtcagagt acaaaggacc agtgactgat gttttctaca ggaaacatc ttacactaca
5821 accatcaagc ctgtgtcgta taaactcgat ggagttactt acacagagat tgaaccaaaa
5881 ttggatgggt attataaaaa ggataatgct tactatacag agcagcctat agaccttgta
5941 ccaactcaac cattaccaaa tgcgagtttt gataatttca aactcacatg ttctaacaca
6001 aaatttgctg atgatttaaa tcaaatgaca ggcttcacaa agccagcttc acgagagcta
6061 tctgtcacat tcttcccaga cttgaatggc gatgtagtgg ctattgacta tagacactat
6121 tcagcgagtt tcaagaaagg tgctaaatta ctgcataagc caattgtttg gcacattaac
6181 caggctacaa ccaagacaac gttcaaacca aacacttggt gtttacgttg tctttggagt
6241 acaaagccag tagatacttc aaattcattt gaagttctgg cagtagaaga cacacaagga
6301 atggacaatc ttgcttgtga agtcaacaa cccacctctg aagaagtagt ggaaaatcct
6361 accatacaga aggaagtcat agagtgtgac gtgaaaacta ccgaagttgt aggcaatgtc
6421 atacttaaac catcagatga aggtgttaaa gtaacacaag agttaggtca tgaggatctt
6481 atggctgctt atgtggaaaa cacaagcatt accattaaga aacctaatga gctttcacta
6541 gccttaggtt aaaaacaat tgccactcat ggtattgctg caattaatag tgttccttgg
6601 agtaaaattt ggcttatgt caaaccattc ttaggacaag cagcaattac aacatcaaat
6661 tgcgctaaga gattagcaca acgtgtgttt aacaattata tgccttatgt gtttacatta
```

FIG. 1O Con't

```
 6721 ttgttccaat tgtgtacttt tactaaaagt accaattcta gaattagagc ttcactacct
 6781 acaactattg ctaaaaatag tgttaagagt gttgctaaat tatgtttgga tgccggcatt
 6841 aattatgtga agtcacccaa atttttctaaa ttgttcacaa tcgctatgtg gctattgttg
 6901 ttaagtattt gcttaggttc tctaatctgt gtaactgctg cttttggtgt actcttatct
 6961 aattttggtg ctccttctta ttgtaatggc gttagagaat tgtatcttaa ttcgtctaac
 7021 gttactacta tggatttctg tgaaggttct tttccttgca gcatttgttt aagtggatta
 7081 gactcccttg attcttatcc agctcttgaa accattcagg tgacgatttc atcgtacaag
 7141 ctagacttga caattttagg tctggccgct gagtgggttt tggcatatat gttgttcaca
 7201 aaattctttt atttattagg tctttcagct ataatgcagg tgttctttgg ctattttgct
 7261 agtcatttca tcagcaattc ttggctcatg tggtttatca ttagtattgt acaaatggca
 7321 cccgtttctg caatggttag gatgtacatc ttctttgctt ctttctacta catatggaag
 7381 agctatgttc atatcatgga tggttgcacc tcttcgactt gcatgatgtg ctataagcgc
 7441 aatcgtgcca cacgcgttga gtgtacaact attgttaatg gcatgaagag atctttctat
 7501 gtctatgcaa atggaggccg tggcttctgc aagactcaca attggaattg tctcaattgt
 7561 gacacatttt gcactggtag tacattcatt agtgatgaag ttgctcgtga tttgtcactc
 7621 cagtttaaaa gaccaatcaa ccctactgac cagtcatcgt atattgttga tagtgttgct
 7681 gtgaaaaatg gcgcgcttca cctctacttt gacaaggctg tcaaaagac ctatgagaga
 7741 catccgctct cccatttttgt caatttagac aatttgagag ctaacaacac taaaggttca
 7801 ctgcctatta atgtcatagt ttttgatggc aagtccaaat gcgacgagtc tgcttctaag
 7861 tctgcttctg tgtactacag tcagctgatg tgccaaccta ttctgttgct tgaccaagct
 7921 cttgtatcaa acgttggaga tagtactgaa gtttccgtta agatgtttga tgcttatgtc
 7981 gacacctttt cagcaacttt tagtgttcct atggaaaaac ttaaggcact tgttgctaca
 8041 gctcacagcg agttagcaaa gggtgtagct ttagatggtg tcctttctac attcgtgtca
 8101 gctgcccgac aaggtgttgt tgataccgat gttgacacaa aggatgttat tgaatgtctc
 8161 aaactttcac atcactctga cttagaagtg acaggtgaca gttgtaacaa tttttcatgctc
 8221 acctataata aggttgaaaa catgacgccc agagatcttg gcgcatgtat tgactgtaat
 8281 gcaaggcata tcaatgccca agtagcaaaa agtcacaatg tttcactcat ctggaatgta
 8341 aaagactaca tgtctttatc tgaacagctg cgtaaacaaa ttcgtactgc tgccaagaag
 8401 aacaacatac ctttttacact aacttgtgct acaactagac aggttgtcaa tgtcataact
 8461 actaaaatct cactcaaggg tggtaagatt gttagtactt gtttttaaact tatgcttaag
 8521 gccacattat tgtgcgttct tgctgcattg gtttgttata tcgttatgcc agtacataca
 8581 ttgtcaatcc atgatggtta cacaaatgaa atcattggtt acaaagccat tcaggatggt
 8641 gtcactcgtg acatcatttc tactgatgat tgtttttgcaa ataaacatgc tggttttgac
 8701 gcatggttta gccagcgtgg tggttcatac aaaaatgaca aaagctgccc tgtagtagct
 8761 gctatcatta caagagagat tggtttcata gtgcctggct taccgggtac tgtgctgaga
 8821 gcaatcaatg gtgacttctt gcatttttcta cctcgtgttt ttagtctgtg tggcaacatt
 8881 tgctacacac cttccaaact cattgagtat agtgattttg ctacctctgc ttgcgttctt
 8941 gctgctgagt gtacaatttt taaggatgct atgggcaaac ctgtgccata ttgttatgac
 9001 actaatttgc tagagggttc tatttcttat agtgagcttc gtccagacac tcgttatgtg
 9061 cttatggatg gttccatcat acagtttcct aacacttacc tggagggttc tgttagagta
 9121 gtaacaactt ttgatgctga gtactgtaga catggtacat gcgaaaggtc agaagtaggt
 9181 atttgcctat ctaccagtgg tagatgggtt cttaataatg agcattacag agctctatca
 9241 ggagttttct gtggtgttga tgcgatgaat ctcatagcta acatctttac tcctcttgtg
 9301 caacctgtgg gtgctttaga tgtgtctgct tcagtagtgg ctggtggtat tattgccata
 9361 ttggtgactt gtgctgccta ctactttatg aaattcagac gtgttttttgg tgagtacaac
 9421 catgttgttg ctgctaatgc acttttgttt ttgatgtctt tcactatact ctgtctggta
 9481 ccagcttaca gctttctgcc gggagtctac tcagtctttt acttgtactt gacattctat
 9541 ttcaccaatg atgtttcatt cttggctcac cttcaatggt ttgccatgtt ttctcctatt
 9601 gtgccttttt ggataacagc aatctatgta ttctgtattt ctctgaagca ctgccattgg
 9661 ttctttaaca actatcttag gaaaagagtc atgtttaatg gagttacatt tagtaccttc
 9721 gaggaggctg ctttgtgtac ctttttgctc aacaaggaaa tgtacctaaa attgcgtagc
 9781 gagacactgt tgccacttac acagtataac aggtatcttg ctctatataa caagtacaag
 9841 tatttcagtg gagccttaga tactaccagc tatcgtgaag cagcttgctg ccacttagca
 9901 aaggctctaa atgactttag caactcaggt gctgatgttc tctaccaacc accacagaca
 9961 tcaatcactt ctgctgttct gcagagtggt tttaggaaaa tggcattccc gtcaggcaaa
10021 gttgaagggt gcatggtaca agtaacctgt ggaactacaa ctcttaatgg attgtggttg
```

FIG. 10 Con't

```
10081  gatgacacag  tatactgtcc  aagacatgtc  atttgcacag  cagaagacat  gcttaatcct
10141  aactatgaag  atctgctcat  tcgcaaatcc  aaccatagct  ttcttgttca  ggctggcaat
10201  gttcaacttc  gtgttattgg  ccattctatg  caaaattgtc  tgcttaggct  taaagttgat
10261  acttctaacc  ctaagacacc  caagtataaa  tttgtccgta  tccaacctgg  tcaaacattt
10321  tcagttctag  catgctacaa  tggttcacca  tctggtgttt  atcagtgtgc  catgagacct
10381  aatcatacca  ttaaaggttc  tttccttaat  ggatcatgtg  gtagtgttgg  ttttaacatt
10441  gattatgatt  gcgtgtcttt  ctgctatatg  catcatatgg  agcttccaac  aggagtacac
10501  gctggtactg  acttagaagg  taaattctat  ggtccatttg  ttgacagaca  aactgcacag
10561  gctgcaggta  cagacacaac  cataacatta  aatgttttgg  catggctgta  tgctgctgtt
10621  atcaatggtg  ataggtggt  tcttaataga  ttcaccacta  ctttgaatga  cttaacctt
10681  gtggcaatga  agtacaacta  tgaacctttg  acacaagatc  atgttgacat  attgggacct
10741  ctttctgctc  aaacaggaat  tgccgtctta  gatatgtgtg  ctgctttgaa  agagctgctg
10801  cagaatggta  tgaatggtcg  tactatcctt  ggtagcacta  ttttagaaga  tgagtttaca
10861  ccatttgatg  ttgttagaca  atgctctggt  gttaccttcc  aaggtaagtt  caagaaaatt
10921  gttaagggca  ctcatcattg  gatgctttta  actttcttga  catcactatt  gattcttgtt
10981  caaagtacac  agtggtcact  gtttttcttt  gtttacgaga  atgctttctt  gccatttact
11041  cttggtatta  tggcaattgc  tgcatgtgct  atgctgcttg  ttaagcataa  gcacgcattc
11101  ttgtgcttgt  ttctgttacc  ttctcttgca  acagttgctt  actttaatat  ggtctacatg
11161  cctgctagct  gggtgatgcg  tatcatgaca  tggcttgaat  tggctgacac  tagcttgtct
11221  ggttataggc  ttaaggattg  tgttatgtat  gcttcagctt  tagttttgct  tattctcatg
11281  acagctcgca  ctgtttatga  tgatgctgct  agacgtgttt  ggacactgat  gaatgtcatt
11341  acacttgttt  acaaagtcta  ctatggtaat  gctttagatc  aagctatttc  catgtgggcc
11401  ttagttattt  ctgtaacctc  taactattct  ggtgtcgtta  cgactatcat  gttttttagct
11461  agagctatag  tgtttgtgtg  tgttgagtat  tacccattgt  tatttattac  tggcaacacc
11521  ttacagtgta  tcatgcttgt  ttattgtttc  ttaggctatt  gttgctgctg  ctactttggc
11581  cttttctgtt  tactcaaccg  ttacttcagg  cttactcttg  gtgtttatga  ctacttggtc
11641  tctacacaag  aatttaggta  tatgaactcc  caggggcttt  tgcctcctaa  gagtagtatt
11701  gatgctttca  agcttaacat  taagttgttg  ggtattggag  gtaaaccatg  tatcaaggtt
11761  gctactgtac  agtctaaaat  gtctgacgta  aagtgcacat  ctgtggtact  gctctcggtt
11821  cttcaacaac  ttagagtaga  gtcatcttct  aaattgtggg  cacaatgtgt  acaactccac
11881  aatgatattc  ttcttgcaaa  agacacaact  gaagctttcg  agaagatggt  ttctctttg
11941  tctgttttgc  tatccatgca  gggtgctgta  gacattaata  ggttgtgcga  ggaaatgctc
12001  gataaccgtg  ctactcttca  ggctattgct  tcagaattta  gttctttacc  atcatatgcc
12061  gcttatgcca  ctgcccagga  ggcctatgag  caggctgtag  ctaatggtga  ttctgaagtc
12121  gttctcaaaa  agttaaagaa  atctttgaat  gtggctaaat  ctgagtttga  ccgtgatgct
12181  gccatgcaac  gcaagttgga  aaagatggca  gatcaggcta  tgacccaaat  gtacaaacag
12241  gcaagatctg  aggacaagag  ggcaaaagta  actagtgcta  tgcaaacaat  gctcttcact
12301  atgcttagga  agcttgataa  tgatgcactt  aacaacatta  tcaacaatgc  gcgtgatggt
12361  tgtgttccac  tcaacatcat  accattgact  acagcagcca  aactcatggt  tgttgtccct
12421  gattatggta  cctacaagaa  cacttgtgat  ggtaacacct  ttacatatgc  atctgcactc
12481  tgggaaatcc  agcaagttgt  tgatgcggat  agcaagattg  ttcaacttag  tgaaattaac
12541  atggacaatt  caccaaattt  ggcttggcct  cttattgtta  cagctctaag  agccaactca
12601  gctgttaaac  tacagaataa  tgaactgagt  ccagtagcac  tacgacagat  gtcctgtgcg
12661  gctggtacca  cacaaacagc  ttgtactgat  gacaatgcac  ttgcctacta  taacaattcg
12721  aagggaggta  ggtttgtgct  ggcattacta  tcagaccacc  aagatctcaa  atgggctaga
12781  ttccctaaga  gtgatggtac  aggtacaatt  tacacagaac  tggaaccacc  ttgtaggttt
12841  gttacagaca  caccaaaagg  gcctaaagtg  aaatacttgt  acttcatcaa  aggcttaaac
12901  aacctaaata  gaggtatggt  gctgggcagt  ttagctgcta  cagtacgtct  tcaggctgga
12961  aatgctacag  aagtacctgc  caattcaact  gtgctttcct  tctgtgcttt  tgcagtagac
13021  cctgctaaag  catataagga  ttacctagca  agtggaggac  aaccaatcac  caactgtgtg
13081  aagatgttgt  gtacacacac  tggtacagga  caggcaatta  ctgtaacacc  agaagctaac
13141  atggaccaag  agtcctttgg  tggtgcttca  tgttgtctgt  attgtagatg  ccacattgac
13201  catccaaatc  ctaaaggatt  ctgtgacttg  aaaggtaagt  acgtccaaat  acctaccact
13261  tgtgctaatg  acccagtggg  ttttacactt  agaaacacag  tctgtaccgt  ctgcggaatg
13321  tggaaaggtt  atggctgtag  ttgtgaccaa  ctccgcgaac  ccttgatgca  gtctgcggat
13381  gcatcaacgt  ttttaaacgg  gtttgcggtg  taagtgcagc  ccgtcttaca  ccgtgcggca
```

FIG. 1O Con't

```
13441 caggcactag tactgatgtc gtctacaggg cttttgatat ttacaacgaa aaaagtgctg
13501 gttttgcaaa gttcctaaaa actaattgct gtcgcttcca ggagaaggat gaggaaggca
13561 atttattaga ctcttacttt gtagttaaga ggcatactat gtctaactac caacatgaag
13621 agactattta taacttggtt aaagattgtc cagcggttgc tgtccatgac tttttcaagt
13681 ttagagtaga tggtgacatg gtaccacata tatcacgtca gcgtctaact aaatacacaa
13741 tggctgattt agtctatgct ctacgtcatt ttgatgaggg taattgtgat acattaaaag
13801 aaatactcgt cacatacaat tgctgtgatg atgattattt caataagaag gattggtatg
13861 acttcgtaga gaatcctgac atcttacgcg tatatgctaa cttaggtgag cgtgtacgcc
13921 aatcattatt aaagactgta caattctgcg atgctatgcg tgatgcaggc attgtaggcg
13981 tactgacatt agataatcag gatcttaatg ggaactggta cgatttcggt gatttcgtac
14041 aagtagcacc aggctgcgga gttcctattg tggattcata ttactcattg ctgatgccca
14101 tcctcacttt gactagggca ttggctgctg agtcccatat ggatgctgat ctcgcaaaac
14161 cacttattaa gtgggatttg ctgaaatatg attttacgga agagagactt tgtctcttcg
14221 accgttattt taaatattgg gaccagacat accatcccaa ttgtattaac tgtttggatg
14281 ataggtgtat ccttcattgt gcaaacttta atgtgttatt ttctactgtg tttccaccta
14341 caagttttgg accactagta agaaaaatat ttgtagatgg tgttcctttt gttgtttcaa
14401 ctggatacca tttttcgtgag ttaggagtcg tacataatca ggatgtaaac ttacatagct
14461 cgcgtctcag tttcaaggaa ctttttagtgt atgctgctga tccagctatg catgcagctt
14521 ctggcaattt attgctagat aaacgcacta catgcttttc agtagctgca ctaacaaaca
14581 atgttgcttt tcaaactgtc aaacccggta attttaataa agacttttat gactttgctg
14641 tgtctaaagg tttctttaag gaaggaagtt ctgttgaact aaaacacttc ttctttgctc
14701 aggatggcaa cgctgctatc agtgattatg actattatcg ttataatctg ccaacaatgt
14761 gtgatatcag acaactccta ttcgtagttg aagttgttga taaatacttt gattgttacg
14821 atggtggctg tattaatgcc aaccaagtaa tcgttaacaa tctggataaa tcagctggtt
14881 tcccatttaa taaatggggt aaggctagac tttattatga ctcaatgagt tatgaggatc
14941 aagatgcact tttcgcgtat actaagcgta atgtcatccc tactataact caaatgaatc
15001 ttaagtatgc cattagtgca aagaatagag ctcgcaccgt agctggtgtc tctatctgta
15061 gtactatgac aaatagacag tttcatcaga aattattgaa gtcaatagcc gccactagag
15121 gagctactgt ggtaattgga acaagcaagt tttacggtgg ctggcataat atgttaaaaa
15181 ctgtttacag tgatgtagaa actccacacc ttatgggttg ggattatcca aaatgtgaca
15241 gagccatgcc taacatgctt aggataatgg cctctcttgt tcttgctcgc aaacataaca
15301 cttgctgtaa cttatcacac cgtttctaca ggttagctaa cgagtgtgcg caagtattaa
15361 gtgagatggt catgtgtggc ggctcactat atgttaaacc aggtggaaca tcatccggtg
15421 atgctacaac tgcttatgct aatagtgtct ttaacatttg tcaagctgtt acagccaatg
15481 taaatgcact tctttcaact gatggtaata agatagctga caagtatgtc cgcaatctac
15541 aacacaggct ctatgagtgt ctctatagaa ataggatgt gatcatgaa ttcgtggatg
15601 agttttacgc ttacctgcgt aaacatttct ccatgatgat tctttctgat gatgccgttg
15661 tgtgctataa cagtaactat gcggctcaag gtttagtagc tagcattaag aactttaagg
15721 cagttcttta ttatcaaaat aatgtgttca tgtctgaggc aaaatgttgg actgagactg
15781 accttactaa aggacctcac gaattttgct cacagcatac aatgctagtt aaacaaggag
15841 atgattacgt gtacctgcct tacccagatc catcaagaat attaggcgca ggctgttttg
15901 tcgatgatat tgtcaaaaca gatggtacac ttatgattga aggttcgtg tcactggcta
15961 ttgatgctta cccacttaca aaacatccta atcaggagta tgctgatgtc tttcacttgt
16021 atttacaata cattagaaag ttacatgatg agcttactgg ccacatgttg gacatgtatt
16081 ccgtaatgct aactaatgat aacacctcac ggtactggga acctgagttt tatgaggcta
16141 tgtacacacc acatacagtc ttgcaggctg taggtgcttg tgtattgtgc aattcacaga
16201 cttcacttcg ttgcggtgcc tgtattagga gaccattcct atgttcaag tgctgctatg
16261 accatgtcat ttcaacatca cacaaattag tgttgtctgt taatcctat gtttgcaatg
16321 ccccaggttg tgatgtcact gatgtgacac aactgtatct aggaggtatg agctattatt
16381 gcaagtcaca taagcctccc attagttttc cattatgtgc taatggtcag ttttttggtt
16441 tatcaaaaa cacatgtgta ggcagtgaca atgtcactga cttcaatgcg atagcaacat
16501 gtgattggac taatgctggc gattacatac ttgccaacac ttgtactgag agactcaagc
16561 ttttcgcagc agaaacgctc aaagccactg aggaaacatt taagctgtca tatggtattg
16621 ccactgtacg cgaagtactc tctgacagag aattgcatct ttcatgggag gttggaaaac
16681 ctagaccacc attgaacaga aactatgtct ttactggtta ccgtgtaact aaaaatagta
16741 aagtacagat tggagagtac acctttgaaa aaggtgacta tggtgatgct gttgtgtaca
```

FIG. 1O Con't

```
16801 gaggtactac gacatacaag ttgaatgttg gtgattactt tgtgttgaca tctcacactg
16861 taatgccact tagtgcacct actctagtgc cacaagagca ctatgtgaga attactggct
16921 tgtacccaac actcaacatc tcagatgagt tttctagcaa tgttgcaaat tatcaaaagg
16981 tcggcatgca aaagtactct acactccaag gaccacctgg tactggtaag agtcattttg
17041 ccatcggact tgctctctat tacccatctg ctcgcatagt gtatacggca tgctctcatg
17101 cagctgttga tgccctatgt gaaaaggcat taaaatattt gcccatagat aaatgtagta
17161 gaatcatacc tgcgcgtgcg cgcgtagagt gttttgataa attcaaagtg aattcaacac
17221 tagaacagta tgttttctgc actgtaaatg cattgccaga aacaactgct gacattgtag
17281 tctttgatga aatctctatg gctactaatt atgacttgag tgttgtcaat gctagacttc
17341 gtgcaaaaca ctacgtctat attggcgatc ctgctcaatt accagccccc cgcacattgc
17401 tgactaaagg cacactagaa ccagaatatt ttaattcagt gtgcagactt atgaaaacaa
17461 taggtccaga catgttcctt ggaacttgtc gccgttgtcc tgctgaaatt gttgacactg
17521 tgagtgcttt agtttatgac aataagctaa aagcacacaa ggataagtca gctcaatgct
17581 tcaaaatgtt ctacaaaggt gttattacac atgatgtttc atctgcaatc aacagacctc
17641 aaataggcgt tgtaagagaa tttcttacac gcaatcctgc ttggagaaaa gctgttttta
17701 tctcacctta taattcacag aacgctgtag cttcaaaaat cttaggattg cctacgcaga
17761 ctgttgattc atcacagggt tctgaatatg actatgtcat attcacacaa actactgaaa
17821 cagcacactc ttgtaatgtc aaccgcttca atgtggctat cacaagggca aaaattggca
17881 ttttgtgcat aatgtctgat agagatcttt atgacaaact gcaatttaca agtctagaaa
17941 taccacgtcg caatgtggct acattacaag cagaaaatgt aactggactt tttaaggact
18001 gtagtaagat cattactggt cttcatccta cacaggcacc tacacacctc agcgttgata
18061 taaaattcaa gactgaagga ttatgtgttg acataccagg catacccaag gacatgacct
18121 accgtagact catctctatg atgggtttca aaatgaatta ccaagtcaat ggttacccta
18181 atatgtttat cacccgcgaa gaagctattc gtcacgttcg tgcgtggatt ggctttgatg
18241 tagagggctg tcatgcaact agagatgctg tgggtactaa cctacctctc cagctaggat
18301 tttctacagg tgttaactta gtagctgtac cgactggtta tgttgacact gaaaataaca
18361 cagaattcac cagagttaat gcaaaacctc caccaggtga ccagtttaaa catcttatac
18421 cactcatgta taaaggcttg ccctggaatg tagtgcgtat taagatagta caaatgctca
18481 gtgatacact gaaaggattg tcagacagag tcgtgttcgt cctttgggcg catggctttg
18541 agcttacatc aatgaagtac tttgtcaaga ttggacctga agaacgtgt tgtctgtgtg
18601 acaaacgtgc aacttgcttt tctacttcat cagatactta tgcctgctgg aatcattctg
18661 tgggttttga ctatgtctat aacccattta tgattgatgt tcagcagtgg ggctttacgg
18721 gtaaccttca gagtaaccat gaccaacatt gccaggtaca tggaaatgca catgtggcta
18781 gttgtgatgc tatcatgact agatgtttag cagtccatga gtgctttgtt aagcgcgttg
18841 attggtctgt tgaataccct attataggag atgaactgag ggttaattct gcttgcagaa
18901 aagtacaaca catggttgtg aagtctgcat tgcttgctga taagtttcca gttcttcatg
18961 acattggaaa tccaaaggct atcaagtgtg tgcctcaggc tgaagtagaa tggaagttct
19021 acgatgctca gccatgtagt gacaaagctt acaaaataga ggaactcttc tattcttatg
19081 ctacacatca cgataaattc actgatggtg tttgtttgtt ttggaattgt aacgttgatc
19141 gttacccagc caatgcaatt gtgtgtaggt ttgacacaag agtcttgtca aacttgaact
19201 taccaggctg tgatggtggt agtttgtatg tgaataagca tgcattccac actccagctt
19261 tcgataaaag tgcatttact aatttaaagc aattgccttt cttttactat tctgatagtc
19321 cttgtgagtc tcatggcaaa caagtagtgt cggatattga ttatgttcca ctcaaatctg
19381 ctacgtgtat tacacgatgc aatttaggtg gtgctgtttg cagacaccat gcaaatgagt
19441 accgacagta cttggatgca tataatatga tgatttctgc tggatttagc ctatggatt
19501 acaaacaatt tgatacttat aacctgtgga atacatttac caggttacag agtttagaaa
19561 atgtggctta taatgttgtt aataaaggac actttgatgg acacgccggc gaagcacctg
19621 tttccatcat taataatgct gtttacacaa aggtagatgg tattgatgtg gagatctttg
19681 aaaataagac aacacttcct gttaatgttg catttgagct ttgggctaag cgtaacatta
19741 aaccagtgcc agagattaag atactcaata atttgggtgt tgatatcgct gctaatactg
19801 taatctggga ctacaaaaga gaagccccag cacatgtatc tacaataggt gtctgcacaa
19861 tgactgacat tgccaagaaa cctactgaga gtgcttgttc ttcacttact gtcttgtttg
19921 atggtagagt ggaaggacag gtagaccttt ttagaaacgc ccgtaatggt gtttttaataa
19981 cagaaggttc agtcaaaggt ctaacacctt caaagggacc agcacaagct agcgtcaatg
20041 gagtcacatt aattggagaa tcagtaaaaa cacagtttaa ctactttaag aaagtagacg
20101 gcattattca acagttgcct gaaacctact ttactcagag cagagactta gaggatttta
```

FIG. 1O Con't

```
20161  agcccagatc  acaaatggaa  actgactttc  tcgagctcgc  tatggatgaa  ttcatacagc
20221  gatataagct  cgagggctat  gccttcgaac  acatcgttta  tggagatttc  agtcatggac
20281  aacttggcgg  tcttcattta  atgataggct  tagccaagcg  ctcacaagat  tcaccactta
20341  aattagagga  ttttatccct  atggacagca  cagtgaaaaa  ttacttcata  acagatgcgc
20401  aaacaggttc  atcaaaatgt  gtgtgttctg  tgattgatct  tttacttgat  gactttgtcg
20461  agataataaa  gtcacaagat  ttgtcagtga  tttcaaaagt  ggtcaaggtt  acaattgact
20521  atgctgaaat  ttcattcatg  ctttggtgta  aggatggaca  tgttgaaacc  ttctacccaa
20581  aactacaagc  aagtcaagcg  tggcaaccag  gtgttgcgat  gcctaacttg  tacaagatgc
20641  aaagaatgct  tcttgaaaag  tgtgaccttc  agaattatgg  tgaaaatgct  gttataccaa
20701  aaggaataat  gatgaatgtc  gcaaagtata  ctcaactgtg  tcaatactta  aatacactta
20761  ctttagctgt  accctacaac  atgagagtta  ttcactttgg  tgctggctct  gataaaggag
20821  ttgcaccagg  tacagctgtg  ctcagacaat  ggttgccaac  tggcacacta  cttgtcgatt
20881  cagatcttaa  tgacttcgtc  tccgacgcag  attctacttt  aattggagac  tgtgcaacag
20941  tacatacggc  taataaatgg  gaccttatta  ttagcgatat  gtatgaccct  aggaccaaac
21001  atgtgacaaa  agagaatgac  tctaaagaag  ggttttttcac  ttatctgtgt  ggatttataa
21061  agcaaaaact  agccctgggt  ggttctatag  ctgtaaagat  aacagagcat  tcttggaatg
21121  ctgaccttta  caagcttatg  ggccatttct  catggtggac  agctttttgtt  acaaatgtaa
21181  atgcatcatc  atcggaagca  tttttaattg  gggctaacta  tcttggcaag  ccgaaggaac
21241  aaattgatgg  ctataccatg  catgctaact  acattttctg  gaggaacaca  aatcctatcc
21301  agttgtcttc  ctattcactc  tttgacatga  gcaaatttcc  tcttaaatta  agaggaactg
21361  ctgtaatgtc  tcttaaggag  aatcaaatca  atgatatgat  ttattctctt  ctggaaaaag
21421  gtaggcttat  cattagagaa  aacaacagag  ttgtggtttc  aagtgatatt  cttgttaaca
21481  actaaacgaa  catgtttatt  ttcttattat  ttcttactct  cactagtggt  agtgaccttg
21541  accggtgcac  cacttttgat  gatgttcaag  ctcctaatta  cactcaacat  acttcatcta
21601  tgagggggggt  ttactatcct  gatgaaattt  ttagatcaga  cactctttat  ttaactcagg
21661  atttatttct  tccattttat  tctaatgtta  cagggtttca  tactattaat  catacgtttg
21721  gcaaccctgt  catacctttt  aaggatggta  tttattttgc  tgccacagag  aaatcaaatg
21781  ttgtccgtgg  ttgggttttt  ggttctacca  tgaacaacaa  gtcacagtcg  gtgattatta
21841  ttaacaattc  tactaatgtt  gttatacgag  catgtaactt  tgaattgtgt  gacaacccctt
21901  tctttgctgt  ttctaaaccc  atgggtacac  agacacatac  tatgatattc  gataatgcat
21961  ttaattgcac  tttcgagtac  atatctgatg  ccttttcgct  tgatgtttca  gaaaagtcag
22021  gtaattttaa  acacttacga  gagtttgtgt  ttaaaaataa  agatgggttt  ctctatgttt
22081  ataagggcta  tcaacctata  gatgtagttc  gtgatctacc  ttctggtttt  aacactttga
22141  aacctatttt  taagttgcct  cttggtatta  acattacaaa  ttttagagcc  attcttacag
22201  ccttttcacc  tgctcaagac  atttggggca  cgtcagctgc  agcctatttt  gttggctatt
22261  taaagccaac  tacatttatg  ctcaagtatg  atgaaaatgg  tacaatcaca  gatgctgttg
22321  attgttctca  aaatccactt  gctgaactca  aatgctctgt  taagagcttt  gagattgaca
22381  aaggaattta  ccagacctct  aatttcaggg  ttgttccctc  aggagatgtt  gtgagattcc
22441  ctaatattac  aaacttgtgt  cctttttggag  aggttttttaa  tgctactaaa  ttcccttctg
22501  tctatgcatg  ggagagaaaa  aaaatttcta  attgtgttgc  tgattactct  gtgctctaca
22561  actcaacatt  tttttcaacc  tttaagtgct  atggcgtttc  tgccactaag  ttgaatgatc
22621  tttgcttctc  caatgtctat  gcagattctt  ttgtagtcaa  gggagatgat  gtaagacaaa
22681  tagcgccagg  acaaactggt  gttattgctg  attataatta  taaattgcca  gatgatttca
22741  tgggttgtgt  ccttgcttgg  aatactagga  acattgatgc  tacttcaact  ggtaattata
22801  attataaaata  taggtatctt  agacatggca  agcttaggcc  ctttgagaga  gacatatcta
22861  atgtgccttt  ctcccctgat  ggcaaacctt  gcaccccacc  tgctcttaat  tgttattggc
22921  cattaaatga  ttatggtttt  tacaccacta  ctggcattgg  ctaccaacct  tacagagttg
22981  tagtactttc  ttttgaactt  ttaaatgcac  cggccacggt  ttgtggacca  aaattatcca
23041  ctgaccttat  taagaaccag  tgtgtcaatt  ttaattttaa  tggactcact  ggtactggtg
23101  tgttaactcc  ttcttcaaag  agatttcaac  catttcaaca  atttggccgt  gatgtttctg
23161  atttcactga  ttccgttcga  gatcctaaaa  catctgaaat  attagacatt  tcaccttgct
23221  cttttgggggg  tgtaagtgta  attacacctg  gaacaaatgc  ttcatctgaa  gttgctgttc
23281  tatatcaaga  tgttaactgc  actgatgttt  ctacagcaat  tcatgcagat  caactcacac
23341  cagcttggcg  catatattct  actggaaaca  atgtattcca  gactcaagca  ggctgtctta
23401  taggagctga  gcatgtcgac  acttcttatg  agtgcgacat  tcctattgga  ctggcatttt
23461  gtgctagtta  ccatacagtt  tctttattac  gtagtactag  ccaaaaatct  attgtggctt
```

FIG. 1O Con't

```
23521 atactatgtc tttaggtgct gatagttcaa ttgcttactc taataacacc attgctatac
23581 ctactaactt ttcaattagc attactacag aagtaatgcc tgtttctatg gctaaaacct
23641 ccgtagattg taatatgtac atctgcggag attctactga atgtgctaat ttgcttctcc
23701 aatatggtag cttttgcaca caactaaatc gtgcactctc aggtattgct gctgaacagg
23761 atcgcaacac acgtgaagtg ttcgctcaag tcaaacaaat gtacaaaacc ccaactttga
23821 aatattttgg tggtttttaat ttttcacaaa tattacctga ccctctaaag ccaactaaga
23881 ggtctttttat tgaggacttg ctctttaata aggtgacact cgctgatgct ggcttcatga
23941 agcaaatatgg cgaatgccta ggtgatatta atgctagaga tctcatttgt gcgcagaagt
24001 tcaatggact tacagtgttg ccacctctgc tcactgatga tatgattgct gcctacactg
24061 ctgctctagt tagtggtact gccactgctg gatggacatt tggtgctggc gctgctcttc
24121 aaatacctttt tgctatgcaa atggcatata ggttcaatgg cattggagtt acccaaaatg
24181 ttctctatga gaaccaaaaa caaatcgcca accaatttaa caaggcgatt agtcaaattc
24241 aagaatcact tacaacaaca tcaactgcat tgggcaagct gcaagacgtt gttaaccaga
24301 atgctcaagc attaaacaca cttgttaaac aacttagctc taatttttggt gcaatttcaa
24361 gtgtgctaaa tgatatcctt tcgcgacttg ataaagtcga ggcggaggta caaattgaca
24421 ggttaattac aggcagactt caaagccttc aaacctatgt aacacaacaa ctaatcaggg
24481 ctgctgaaat cagggcttct gctaatcttg ctgctactaa aatgtctgag tgtgttcttg
24541 gacaatcaaa aagagttgac ttttgtggaa agggctacca ccttatgtcc ttcccacaag
24601 cagccccgca tggtgttgtc ttcctacatg tcacgtatgt gccatcccag gagaggaact
24661 tcaccacagc gccagcaatt tgtcatgaag gcaaagcata cttccctcgt gaaggtgttt
24721 ttgtgtttaa tggcacttct tggtttatta cacagaggaa cttcttttct ccacaaataa
24781 ttactacaga caatacattt gtctcaggaa attgtgatgt cgttattggc atcattaaca
24841 acacagttta tgatcctctg caacctgagc ttgactcatt caaagaagag ctggacaagt
24901 acttcaaaaa tcatacatca ccagatgttg atcttggcga catttcaggc attaacgctt
24961 ctgtcgtcaa cattcaaaaa gaaattgacc gcctcaatga ggtcgctaaa aatttaaatg
25021 aatcactcat tgaccttcaa gaattgggaa aatatgagca atatattaaa tggccttggt
25081 atgtttggct cggcttcatt gctggactaa ttgccatcgt catggttaca atcttgcttt
25141 gttgcatgac tagttgttgc agttgcctca agggtgcatg ctcttgtggt tcttgctgca
25201 agtttgatga ggatgactct gagccagttc tcaagggtgt caaattacat tacacataaa
25261 cgaacttatg gatttgtttta tgagattttt tactcttgga tcaattactg cacagccagt
25321 aaaaattgac aatgcttctc ctgcaagtac tgttcatgct acagcaacga taccgctaca
25381 agcctcactc ccttttcggat ggcttgttat tggcgttgca tttcttgctg ttttttcagag
25441 cgctaccaaa ataattgcgc tcaataaaag atggcagcta gccctttata agggcttcca
25501 gttcatttgc aatttactgc tgctatttgt taccatctat tcacatcttt tgcttgtcgc
25561 tgcaggtaag gaggcgcaat ttttgtacct ctatgccttg atatattttc tacaatgcat
25621 caacgcatgt agaattatta tgagatgttg gctttgttgg aagtgcaaat ccaagaaccc
25681 attactttat gatgccaact actttgtttg ctggcacaca cataactatg actactgtat
25741 accatataac agtgtcacag atacaattgt cgttactgaa ggtgacggca tttcaacacc
25801 aaaaactcaaa gaagactacc aaattggtgg ttattctgag gataggcact caggtgttaa
25861 agactatgtc gttgtacatg ctatttcac cgaagtttac taccagcttg agtctacaca
25921 aattactaca gacactggta ttgaaaatgc tacattcttc atctttaaca agcttgttaa
25981 agacccaccg aatgtgcaaa tacacacaat cgacggctct tcaggagttg ctaatccagc
26041 aatggatcca atttatgatg agccgacgac gactactagc gtgcctttgt aagcacaaga
26101 aagtgagtac gaacttatgt actcattcgt ttcggaagaa acaggtacgt taatagttaa
26161 tagcgtactt ctttttcttg cttttcgtggt attcttgcta gtcacactag ccatccttac
26221 tgcgcttcga ttgtgtgcgt actgctgcaa tattgttaac gtgagtttag taaaaccaac
26281 ggtttacgtc tactcgcgtg ttaaaaatct gaactcttct gaaggagttc ctgatcttct
26341 ggtctaaacg aactaactat tattattatt ctgtttggaa ctttaacatt gcttatcatg
26401 gcagacaacg gtactattac cgttgaggag cttaaacaac tcctggaaca atggaaccta
26461 gtaataggtt tcctattcct agcctggatt atgttactac aatttgccta ttctaatcgg
26521 aacaggtttt tgtacataat aaagcttgtt ttcctctggc tcttgtggcc agtaacactt
26581 gcttgttttg tgcttgctgt tgtctacaga attaattggg tgactggcgg gattgcgatt
26641 gcaatggctt gtattgtagg cttgatgtgg cttagctact tcgttgcttc cttcaggctg
26701 tttgctcgta cccgctcaat gtggtcattc aacccagaaa caaacattct tctcaatgtg
26761 cctctccggg ggacaattgt gaccagaccg ctcatggaaa gtgaacttgt cattggtgct
26821 gtgatcattc gtggtcactt gcgaatggcc ggacactccc tagggcgctg tgacattaag
```

FIG. 1O Con't

```
26881 gacctgccaa aagagatcac tgtggctaca tcacgaacgc tttcttatta caaattagga
26941 gcgtcgcagc gtgtaggcac tgattcaggt tttgctgcat acaaccgcta ccgtattgga
27001 aactataaat taaatacaga ccacgccggt agcaacgaca atattgcttt gctagtacag
27061 taagtgacaa cagatgtttc atcttgttga cttccaggtt acaatagcag agatattgat
27121 tatcattatg aggactttca ggattgctat ttggaatctt gacgttataa taagttcaat
27181 agtgagacaa ttatttaagc ctctaactaa gaagaattat tcggagttag atgatgaaga
27241 acctatggag ttagattatc cataaaacga acatgaaaat tattctcttc ctgacattga
27301 ttgtatttac atcttgcgag ctatatcact atcaggagtg tgttagaggt acgactgtac
27361 tactaaaaga accttgccca tcaggaacat acgagggcaa ttcaccattt caccctcttg
27421 ctgacaataa atttgcacta acttgcacta gcacacactt tgcttttgct tgtgctgacg
27481 gtactcgaca tacctatcag ctgcgtgcaa gatcagtttc accaaaactt ttcatcagac
27541 aagaggaggt tcaacaagag ctctactcgc cactttttct cattgttgct gctctagtat
27601 ttttaatact ttgcttcacc attaagagaa agacagaatg aatgagctca ctttaattga
27661 cttctatttg tgctttttag cctttctgct attccttgtt ttaataatgc ttattatatt
27721 ttggtttttca ctcgaaatcc aggatctaga agaaccttgt accaaagtct aaacgaacat
27781 gaaacttctc attgttttga cttgtatttc tctatgcagt tgcatatgca ctgtagtaca
27841 gcgctgtgca tctaataaac ctcatgtgct tgaagatcct tgtaaggtac aacactaggg
27901 gtaatactta tagcactgct tggctttgtg ctctaggaaa ggttttacct tttcatagat
27961 ggcacactat ggttcaaaca tgcacaccta atgttactat caactgtcaa gatccagctg
28021 gtggtgcgct tatagctagg tgttggtacc ttcatgaagg tcaccaaact gctgcattta
28081 gagacgtact tgttgtttta aataaacgaa caaattaaaa tgtctgataa tggacccca
28141 tcaaaccaac gtagtgcccc ccgcattaca tttggtggac ccacagattc aactgacaat
28201 aaccagaatg gaggacgcaa tggggcaagg ccaaaacagc gccgacccca aggtttaccc
28261 aataatactg cgtcttggtt cacagctctc actcagcatg gcaaggagga acttagattc
28321 cctcgaggcc agggcgttcc aatcaacacc aatagtggtc cagatgacca aattggctac
28381 taccgaagag ctacccgacg agttcgtggt ggtgacggca aaatgaaaga gctcagcccc
28441 agatggtact ctattacct aggaactggc ccagaagctt cacttccta cggcgctaac
28501 aaagaaggca tcgtatgggt tgcaactgag ggagccttga atacacccaa agaccacatt
28561 ggcacccgca atcctaataa caatgctgcc accgtgctac aacttcctca aggaacaaca
28621 ttgccaaaag gcttctacgc agagggaagc agaggcggca gtcaagcctc ttctcgctcc
28681 tcatcacgta gtcgcggtaa ttcaagaaat tcaactcctg gcagcagtag gggaaattct
28741 cctgctcgaa tggctagcgg aggtggtgaa actgccctcg cgctattgct gctagacaga
28801 ttgaaccagc ttgagagcaa agtttctggt aaaggccaac aacaacaagg ccaaactgtc
28861 actaagaaat ctgctgctga ggcatctaaa aagcctcgcc aaaaacgtac tgccacaaaa
28921 cagtacaacg tcactcaagc atttgggaga cgtggtccag aacaaaccca aggaaatttc
28981 ggggaccaag acctaatcag acaaggaact gattacaaac attggccgca aattgcacaa
29041 tttgctccaa gtgcctctgc attctttgga atgtcacgca ttggcatgga agtcacacct
29101 tcgggaacat ggctgactta tcatggagcc attaaattgg atgacaaaga tccacaattc
29161 aaagacaacg tcatactgct gaacaagcac attgacgcat acaaaacatt cccaccaaca
29221 gagcctaaaa aggacaaaaa gaaaaagact gatgaagctc agcctttgcc gcagagacaa
29281 aagaagcagc ccactgtgac tcttcttcct gcggctgaca tggatgattt ctccagacaa
29341 cttcaaaatt ccatgagtgg agcttctgct gattcaactc aggcataaac actcatgatg
29401 accacacaag gcagatgggc tatgtaaacg ttttcgcaat tccgtttacg atacatagtc
29461 tactcttgtg cagaatgaat tctcgtaact aaacagcaca gtaggttta gttaacttta
29521 atctcacata gcaatcttta atcaatgtgt aacattaggg aggacttgaa agagccacca
29581 cattttcatc gaggccacgc ggagtacgat cgagggtaca gtgaataatg ctaggagag
29641 ctgcctatat ggaagagccc taatgtgtaa aattaatttt agtagtgcta tccccatgtg
29701 attttaatag cttcttagga gaatgacaaa aaaaaaaaaa aa
```

<p style="text-align: center">FIG. 1O Con't</p>

```
  1 - ATATTAGGTTTTTACCTACCCAGGAAAAGCCAACCAACCTCGATCTCTTGTAGATCTGTT -  60
    -  I  L  G  F  Y  L  P  R  K  S  Q  P  T  S  I  S  C  R  S  V
    -  Y  *  V  F  T  Y  P  G  K  A  N  Q  P  R  S  L  V  D  L  F
    -   I  R  F  L  P  T  Q  E  K  P  T  N  L  D  L  L  *  I  C  S
 61 - CTCTAAACGAACTTTAAAATCTGTGTAGCTGTCGCTCGGCTGCATGCCTAGTGCACCTAC - 120
    -  L  *  T  N  F  K  I  C  V  A  V  A  R  L  H  A  *  C  T  Y
    -  S  K  R  T  L  K  S  V  *  L  S  L  G  C  M  P  S  A  P  T
    -   L  N  E  L  *  N  L  C  S  C  R  S  A  A  C  L  V  H  L  R
121 - GCAGTATAAACAATAATAAATTTTACTGTCGTTGACAAGAAACGAGTAACTCGTCCCTCT - 180
    -  A  V  *  T  I  I  N  F  T  V  V  D  K  K  R  V  T  R  P  S
    -  Q  Y  K  Q  *  *  I  L  L  S  L  T  R  N  E  *  L  V  P  L
    -   S  I  N  N  N  K  F  Y  C  R  *  Q  E  T  S  N  S  S  L  F
181 - TCTGCAGACTGCTTACGGTTTCGTCCGTGTTGCAGTCGATCATCAGCATACCTAGGTTTC - 240
    -  S  A  D  C  L  R  F  R  P  C  C  S  R  S  S  A  Y  L  G  F
    -  L  Q  T  A  Y  G  F  V  R  V  A  V  D  H  Q  T  *  V  S
    -   C  R  L  L  T  V  S  S  V  L  Q  S  I  I  S  I  P  R  F  R
241 - GTCCGGGTGTGACCGAAAGGTAAGATGGAGAGCCTTGTTCTTGGTGTCAACGAGAAAACA - 300
    -  V  R  V  *  P  K  G  K  M  E  S  L  V  L  G  V  N  E  K  T
    -  S  G  C  D  R  K  V  R  W  R  A  L  F  L  V  S  T  R  K  H
    -   P  G  V  T  E  R  *  D  G  E  P  C  S  W  C  Q  R  E  N  T
301 - CACGTCCAACTCAGTTTGCCTGTCCTTCAGGTTAGAGACGTGCTAGTGCGTGGCTTCGGG - 360
    -  H  V  Q  L  S  L  P  V  L  Q  V  R  D  V  L  V  R  G  F  G
    -  T  S  N  S  V  C  L  S  F  R  L  E  T  C  *  C  V  A  S  G
    -   R  P  T  Q  F  A  C  P  S  G  *  R  R  A  S  A  W  L  R  G
361 - GACTCTGTGGAAGAGGCCCTATCGGAGGCACGTGAACACCTCAAAAATGGCACTTGTGGT - 420
    -  D  S  V  E  E  A  L  S  E  A  R  E  H  L  K  N  G  T  C  G
    -  T  L  W  K  R  P  Y  R  R  H  V  N  T  S  K  M  A  L  V  V
    -   L  C  G  R  G  P  I  G  G  T  *  T  P  Q  K  W  H  L  W  S
421 - CTAGTAGAGCTGGAAAAAGGCGTACTGCCCCAGCTTGAACAGCCCTATGTGTTCATTAAA - 480
    -  L  V  E  L  E  K  G  V  L  P  Q  L  E  Q  P  Y  V  F  I  K
    -  *  *  S  W  K  K  A  Y  C  P  S  L  N  S  P  M  C  S  L  N
    -   S  R  A  G  K  R  R  T  A  P  A  *  T  A  L  C  V  H  *  T
481 - CGTTCTGATGCCTTAAGCACCAATCACGGCCACAAGGTCGTTGAGCTGGTTGCAGAAATG - 540
    -  R  S  D  A  L  S  T  N  H  G  H  K  V  V  E  L  V  A  E  M
    -  V  L  M  P  *  A  P  I  T  A  T  R  S  L  S  W  L  Q  K  W
    -   F  *  C  L  K  H  Q  S  R  P  Q  G  R  *  A  G  C  R  N  G
541 - GACGGCATTCAGTACGGTCGTAGCGGTATAACACTGGGAGTACTCGTGCCACATGTGGGC - 600
    -  D  G  I  Q  Y  G  R  S  G  I  T  L  G  V  L  V  P  H  V  G
    -  T  A  F  S  T  V  V  A  V  *  H  W  E  Y  S  C  H  M  W  A
    -   R  H  S  V  R  S  *  R  Y  N  T  G  S  T  R  A  T  C  G  R
601 - GAAACCCCAATTGCATACCGCAATGTTCTTCTTCGTAAGAACGGTAATAAGGGAGCCGGT - 660
    -  E  T  P  I  A  Y  R  N  V  L  L  R  K  N  G  N  K  G  A  G
    -  K  P  Q  L  H  T  A  M  F  F  F  V  R  T  V  I  R  E  P  V
    -   N  P  N  C  I  P  Q  C  S  S  S  *  E  R  *  *  G  S  R  W
661 - GGTCATAGCTATGGCATCGATCTAAAGTCTTATGACTTAGGTGACGAGCTTGGCACTGAT - 720
    -  G  H  S  Y  G  I  D  L  K  S  Y  D  L  G  D  E  L  G  T  D
    -  V  I  A  M  A  S  I  *  S  L  M  T  *  V  T  S  L  A  L  I
    -   S  *  L  W  H  R  S  K  V  L  *  L  R  *  R  A  W  H  *  S
721 - CCCATTGAAGATTATGAACAAAACTGGAACACTAAGCATGGCAGTGGTGCACTCCGTGAA - 780
    -  P  I  E  D  Y  E  Q  N  W  N  T  K  H  G  S  G  A  L  R  E
    -  P  L  K  I  M  N  K  T  G  T  L  S  M  A  V  V  H  S  V  N
    -   H  *  R  L  *  T  K  L  E  H  *  A  W  Q  W  C  T  P  *  T
781 - CTCACTCGTGAGCTCAATGGAGGTGCAGTCACTCGCTATGTCGACAACAATTTCTGTGGC - 840
    -  L  T  R  E  L  N  G  G  A  V  T  R  Y  V  D  N  N  F  C  G
    -  S  L  V  S  S  M  E  V  Q  S  L  A  M  S  T  T  I  S  V  A
    -   H  S  *  A  Q  W  R  C  S  H  S  L  C  R  Q  Q  F  L  W  P
```

FIG. 11

```
 841 - CCAGATGGGTACCCTCTTGATTGCATCAAAGATTTTCTCGCACGCGCGGGCAAGTCAATG -  900
     -  P  D  G  Y  P  L  D  C  I  K  D  F  L  A  R  A  G  K  S  M
     -   Q  M  G  T  L  L  L  I  A  S  K  I  F  S  H  A  R  A  S  Q  C
     -    R  W  V  P  S  *  L  H  Q  R  F  S  R  T  R  G  Q  V  N  V
 901 - TGCACTCTTTCCGAACAACTTGATTACATCGAGTCGAAGAGAGGTGTCTACTGCTGCCGT -  960
     -  C  T  L  S  E  Q  L  D  Y  I  E  S  K  R  G  V  Y  C  C  R
     -   A  L  F  P  N  N  L  I  T  S  S  R  R  E  V  S  T  A  A  V
     -    H  S  F  R  T  T  *  L  H  R  V  E  E  R  C  L  L  L  P  *
 961 - GACCATGAGCATGAAATTGCCTGGTTCACTGAGCGCTCTGATAAGAGCTACGAGCACCAG - 1020
     -  D  H  E  H  E  I  A  W  F  T  E  R  S  D  K  S  Y  E  H  Q
     -   T  M  S  M  K  L  P  G  S  L  S  A  L  I  R  A  T  S  T  R
     -    P  *  A  *  N  C  L  V  H  *  A  L  *  *  E  L  R  A  P  D
1021 - ACACCCTTCGAAATTAAGAGTGCCAAGAAATTTGACACTTTCAAAGGGGAATGCCCAAAG - 1080
     -  T  P  F  E  I  K  S  A  K  K  F  D  T  F  K  G  E  C  P  K
     -   H  P  S  K  L  R  V  P  R  N  L  T  L  S  K  G  N  A  Q  S
     -    T  L  R  N  *  E  C  Q  E  I  *  H  F  Q  R  G  M  P  K  V
1081 - TTTGTGTTTCCTCTTAACTCAAAAGTCAAAGTCATTCAACCACGTGTTGAAAAGAAAAAG - 1140
     -  F  V  F  P  L  N  S  K  V  K  V  I  Q  P  R  V  E  K  K  K
     -   L  C  F  L  L  T  Q  K  S  K  S  F  N  H  V  L  K  R  K  R
     -    C  V  S  S  *  L  K  S  Q  S  H  S  T  T  C  *  K  E  K  D
1141 - ACTGAGGGTTTCATGGGGCGTATACGCTCTGTGTACCCTGTTGCATCTCCACAGGAGTGT - 1200
     -  T  E  G  F  M  G  R  I  R  S  V  Y  P  V  A  S  P  Q  E  C
     -   L  R  V  S  W  G  V  Y  A  L  C  T  L  L  H  L  H  R  S  V
     -    *  G  F  H  G  A  Y  T  L  C  V  P  C  C  I  S  T  G  V  *
1201 - AACAATATGCACTTGTCTACCTTGATGAAATGTAATCATTGCGATGAAGTTTCATGGCAG - 1260
     -  N  N  M  H  L  S  T  L  M  K  C  N  H  C  D  E  V  S  W  Q
     -   T  I  C  T  C  L  P  *  *  N  V  I  I  A  M  K  F  H  G  R
     -    Q  Y  A  L  V  Y  L  D  E  M  *  S  L  R  *  S  F  M  A  D
1261 - ACGTGCGACTTTCTGAAAGCCACTTGTGAACATTGTGGCACTGAAAATTTAGTTATTGAA - 1320
     -  T  C  D  F  L  K  A  T  C  E  H  C  G  T  E  N  L  V  I  E
     -   R  A  T  F  *  K  P  L  V  N  I  V  A  L  K  I  *  L  L  K
     -    V  R  L  S  E  S  H  L  *  T  L  W  H  *  K  F  S  Y  *  R
1321 - GGACCTACTACATGTGGGTACCTACCTACTAATGCTGTAGTGAAAATGCCATGTCCTGCC - 1380
     -  G  P  T  T  C  G  Y  L  P  T  N  A  V  V  K  M  P  C  P  A
     -   D  L  L  H  V  G  T  Y  L  L  M  L  *  *  K  C  H  V  L  P
     -    T  Y  Y  M  W  V  P  T  Y  *  C  C  S  E  N  A  M  S  C  L
1381 - TGTCAAGACCCAGAGATTGGACCTGAGCATAGTGTTGCAGATTATCACAACCACTCAAAC - 1440
     -  C  Q  D  P  E  I  G  P  E  H  S  V  A  D  Y  H  N  H  S  N
     -   V  K  T  Q  R  L  D  L  S  I  V  L  Q  I  I  T  T  T  Q  T
     -    S  R  P  R  D  W  T  *  A  *  C  C  R  L  S  Q  P  L  K  H
1441 - ATTGAAACTCGACTCCGCAAGGGAGGTAGGACTAGATGTTTTGGAGGCTGTGTGTTTGCC - 1500
     -  I  E  T  R  L  R  K  G  G  R  T  R  C  F  G  G  C  V  F  A
     -   L  K  L  D  S  A  R  E  V  G  L  D  V  L  E  A  V  C  L  P
     -    *  N  S  T  P  Q  G  R  *  D  *  M  F  W  R  L  C  V  C  L
1501 - TATGTTGGCTGCTATAATAAGCGTGCCTACTGGGTTCCTCGTGCTAGTGCTGATATTGGC - 1560
     -  Y  V  G  C  Y  N  K  R  A  Y  W  V  P  R  A  S  A  D  I  G
     -   M  L  A  A  I  I  S  V  P  T  G  F  L  V  L  V  L  I  L  A
     -    C  W  L  L  *  *  A  C  L  L  G  S  S  C  *  C  *  Y  W  L
1561 - TCAGGCCATACTGGCATTACTGGTGACAATGTGGAGACCTTGAATGAGGATCTCCTTGAG - 1620
     -  S  G  H  T  G  I  T  G  D  N  V  E  T  L  N  E  D  L  L  E
     -   Q  A  I  L  A  L  L  V  T  M  W  R  P  *  M  R  I  S  L  R
     -    R  P  Y  W  H  Y  W  *  Q  C  G  D  L  E  *  G  S  P  *  D
1621 - ATACTGAGTCGTGAACGTGTTAACATTAACATTGTTGGCGATTTTCATTTGAATGAAGAG - 1680
     -  I  L  S  R  E  R  V  N  I  N  I  V  G  D  F  H  L  N  E  E
     -   Y  *  V  V  N  V  L  T  T  L  T  L  L  A  I  F  I  *  M  K  R
     -    T  E  S  *  T  C  *  H  *  H  C  W  R  F  S  F  E  *  R  G
```

FIG. 11 Con't

```
1681 - GTTGCCATCATTTTGGCATCTTTCTCTGCTTCTACAAGTGCCTTTATTGACACTATAAAG - 1740
     - V  A  I  I  L  A  S  F  S  A  S  T  S  A  F  I  D  T  I  K
     - L  P  S  F  W  H  L  S  L  L  L  Q  V  P  L  L  T  L  *  R
     - C  H  H  F  G  I  F  L  C  F  Y  K  C  L  Y  *  H  Y  K  E
1741 - AGTCTTGATTACAAGTCTTTCAAAACCATTGTTGAGTCCTGCGGTAACTATAAAGTTACC - 1800
     - S  L  D  Y  K  S  F  K  T  I  V  E  S  C  G  N  Y  K  V  T
     - V  L  I  T  S  L  S  K  P  L  L  S  P  A  V  T  I  K  L  P
     - S  *  L  Q  V  F  Q  N  H  C  *  V  L  R  *  L  *  S  Y  Q
1801 - AAGGGAAAGCCCGTAAAAGGTGCTTGGAACATTGGACAACAGAGATCAGTTTTAACACCA - 1860
     - K  G  K  P  V  K  G  A  W  N  I  G  Q  Q  R  S  V  L  T  P
     - R  E  S  P  *  K  V  L  G  T  L  D  N  R  D  Q  F  *  H  H
     - G  K  A  R  K  R  C  L  E  H  W  T  T  E  I  S  F  N  T  T
1861 - CTGTGTGGTTTTCCCTCACAGGCTGCTGGTGTTATCAGATCAATTTTTGCGCGCACACTT - 1920
     - L  C  G  F  P  S  Q  A  A  G  V  I  R  S  I  F  A  R  T  L
     - C  V  V  F  P  H  R  L  L  V  L  S  D  Q  F  L  R  A  H  L
     - V  W  F  S  L  T  G  C  W  C  Y  Q  I  N  F  C  A  H  T  *
1921 - GATGCAGCAAACCACTCAATTCCTGATTTGCAAAGAGCAGCTGTCACCATACTTGATGGT - 1980
     - D  A  A  N  H  S  I  P  D  L  Q  R  A  A  V  T  I  L  D  G
     - M  Q  Q  T  T  Q  F  L  I  C  K  E  Q  L  S  P  Y  L  M  V
     - C  S  K  P  L  N  S  *  F  A  K  S  S  C  H  H  T  *  W  Y
1981 - ATTTCTGAACAGTCATTACGTCTTGTCGACGCCATGGTTTATACTTCAGACCTGCTCACC - 2040
     - I  S  E  Q  S  L  R  L  V  D  A  M  V  Y  T  S  D  L  L  T
     - F  L  N  S  H  Y  V  L  S  T  P  W  F  I  L  Q  T  C  S  P
     - F  *  T  V  I  T  S  C  R  R  H  G  L  Y  F  R  P  A  H  Q
2041 - AACAGTGTCATTATTATGGCATATGTAACTGGTGGTCTTGTACAACAGACTTCTCAGTGG - 2100
     - N  S  V  I  I  M  A  Y  V  T  G  G  L  V  Q  Q  T  S  Q  W
     - T  V  S  L  L  W  H  M  *  L  V  V  L  Y  N  R  L  L  S  G
     - Q  C  H  Y  Y  G  I  C  N  W  W  S  C  T  T  D  F  S  V  V
2101 - TTGTCTAATCTTTTGGGCACTACTGTTGAAAAACTCAGGCCTATCTTTGAATGGATTGAG - 2160
     - L  S  N  L  L  G  T  T  V  E  K  L  R  P  I  F  E  W  I  E
     - C  L  I  F  W  A  L  L  L  K  N  S  G  L  S  L  N  G  L  R
     - V  *  S  F  G  H  Y  C  *  K  T  Q  A  Y  L  *  M  D  *  G
2161 - GCGAAACTTAGTGCAGGAGTTGAATTTCTCAAGGATGCTTGGGAGATTCTCAAATTTCTC - 2220
     - A  K  L  S  A  G  V  E  F  L  K  D  A  W  E  I  L  K  F  L
     - R  N  L  V  Q  E  L  N  F  S  R  M  L  G  R  F  S  N  F  S
     - E  T  *  C  R  S  *  I  S  Q  G  C  L  G  D  S  Q  I  S  H
2221 - ATTACAGGTGTTTTTGACATCGTCAAGGGTCAAATACAGGTTGCTTCAGATAACATCAAG - 2280
     - I  T  G  V  F  D  I  V  K  G  Q  I  Q  V  A  S  D  N  I  K
     - L  Q  V  F  L  T  S  S  R  V  K  Y  R  L  L  Q  I  T  S  R
     - Y  R  C  F  *  H  R  Q  G  S  N  T  G  C  F  R  *  H  Q  G
2281 - GATTGTGTAAAATGCTTCATTGATGTTGTTAACAAGGCACTCGAAATGTGCATTGATCAA - 2340
     - D  C  V  K  C  F  I  D  V  V  N  K  A  L  E  M  C  I  D  Q
     - I  V  *  N  A  S  L  M  L  L  T  R  H  S  K  C  A  L  I  K
     - L  C  K  M  L  H  *  C  C  *  Q  G  T  R  N  V  H  *  S  S
2341 - GTCACTATCGCTGGCGCAAAGTTGCGATCACTCAACTTAGGTGAAGTCTTCATCGCTCAA - 2400
     - V  T  I  A  G  A  K  L  R  S  L  N  L  G  E  V  F  I  A  Q
     - S  L  S  L  A  Q  S  C  D  H  S  T  *  V  K  S  S  S  L  K
     - H  Y  R  W  R  K  V  A  I  T  Q  L  R  *  S  L  H  R  S  K
2401 - AGCAAGGGACTTTACCGTCAGTGTATACGTGGCAAGGAGCAGCTGCAACTACTCATGCCT - 2460
     - S  K  G  L  Y  R  Q  C  I  R  G  K  E  Q  L  Q  L  L  M  P
     - A  R  D  F  T  V  S  V  Y  V  A  R  S  S  C  N  Y  S  C  L
     - Q  G  T  L  P  S  V  Y  T  W  Q  G  A  A  A  T  T  H  A  S
2461 - CTTAAGGCACCAAAAGAAGTAACCTTTCTTGAAGGTGATTCACATGACACAGTACTTACC - 2520
     - L  K  A  P  K  E  V  T  F  L  E  G  D  S  H  D  T  V  L  T
     - L  R  H  Q  K  K  *  P  F  L  K  V  I  H  M  T  Q  Y  L  P
     - *  G  T  K  R  S  N  L  S  *  R  *  F  T  *  H  S  T  Y  L
```

FIG. 11 Con't

```
2521 - TCTGAGGAGGTTGTTCTCAAGAACGGTGAACTCGAAGCACTCGAGACGCCCGTTGATAGC - 2580
     - S  E  E  V  V  L  K  N  G  E  L  E  A  L  E  T  P  V  D  S
     - L  R  R  L  F  S  R  T  V  N  S  K  H  S  R  R  P  L  I  A
     - *  G  G  C  S  Q  E  R  *  T  R  S  T  R  D  A  R  *  *  L
2581 - TTCACAAATGGAGCTATCGTCGGCACACCAGTCTGTGTAAATGGCCTCATGCTCTTAGAG - 2640
     - F  T  N  G  A  I  V  G  T  P  V  C  V  N  G  L  M  L  L  E
     - S  Q  M  E  L  S  S  A  H  Q  S  V  *  M  A  S  C  S  *  R
     - H  K  W  S  Y  R  R  H  T  S  L  C  K  W  P  H  A  L  R  D
2641 - ATTAAGGACAAAGAACAATACTGCGCATTGTCTCCTGGTTTACTGGCTACAAACAATGTC - 2700
     - I  K  D  K  E  Q  Y  C  A  L  S  P  G  L  L  A  T  N  N  V
     - L  R  T  K  N  N  T  A  H  C  L  L  V  Y  W  L  Q  T  M  S
     - *  G  Q  R  T  I  L  R  I  V  S  W  F  T  G  Y  K  Q  C  L
2701 - TTTCGCTTAAAAGGGGGTGCACCAATTAAAGGTGTAACCTTTGGAGAAGATACTGTTTGG - 2760
     - F  R  L  K  G  G  A  P  I  K  G  V  T  F  G  E  D  T  V  W
     - F  A  *  K  G  G  V  H  Q  L  K  V  *  P  L  E  K  I  L  F  G
     - S  L  K  R  G  C  T  N  *  R  C  N  L  W  R  R  Y  C  L  G
2761 - GAAGTTCAAGGTTACAAGAATGTGAGAATCACATTTGAGCTTGATGAACGTGTTGACAAA - 2820
     - E  V  Q  G  Y  K  N  V  R  I  T  F  E  L  D  E  R  V  D  K
     - K  F  K  V  T  R  M  *  E  S  H  L  S  L  M  N  V  L  T  K
     - S  S  R  L  Q  E  C  E  N  H  I  *  A  *  *  T  C  *  Q  S
2821 - GTGCTTAATGAAAAGTGCTCTGTCTACACTGTTGAATCCGGTACCGAAGTTACTGAGTTT - 2880
     - V  L  N  E  K  C  S  V  Y  T  V  E  S  G  T  E  V  T  E  F
     - C  L  M  K  S  A  L  S  T  L  L  N  P  V  P  K  L  L  S  L
     - A  *  *  K  V  L  C  L  H  C  *  I  R  Y  R  S  Y  *  V  C
2881 - GCATGTGTTGTAGCAGAGGCTGTTGTGAAGACTTTACAACCAGTTTCTGATCTCCTTACC - 2940
     - A  C  V  V  A  E  A  V  V  K  T  L  Q  P  V  S  D  L  L  T
     - H  V  L  *  Q  R  L  L  *  R  L  Y  N  Q  F  L  I  S  L  P
     - M  C  C  S  R  G  C  C  E  D  F  T  T  S  F  *  S  P  Y  Q
2941 - AACATGGGTATTGATCTTGATGAGTGGAGTGTAGCTACATTCTACTTATTTGATGATGCT - 3000
     - N  M  G  I  D  L  D  E  W  S  V  A  T  F  Y  L  F  D  D  A
     - T  W  V  L  I  L  M  S  G  V  *  L  H  S  T  Y  L  M  M  L
     - H  G  Y  *  S  *  *  V  E  C  S  Y  I  L  L  I  *  *  C  W
3001 - GGTGAAGAAAACTTTTCATCACGTATGTATTGTTCCTTTTACCCTCCAGATGAGGAAGAA - 3060
     - G  E  E  N  F  S  S  R  M  Y  C  S  F  Y  P  P  D  E  E  E
     - V  K  K  T  F  H  H  V  C  I  V  P  F  T  L  Q  M  R  K  K
     - *  R  K  L  F  I  T  Y  V  L  F  L  L  P  S  R  *  G  R  R
3061 - GAGGACGATGCAGAGTGTGAGGAAGAAGAAATTGATGAAACCTGTGAACATGAGTACGGT - 3120
     - E  D  D  A  E  C  E  E  E  E  I  D  E  T  C  E  H  E  Y  G
     - R  T  M  Q  S  V  R  K  K  K  L  M  K  P  V  N  M  S  T  V
     - G  R  C  R  V  *  G  R  R  N  *  *  N  L  *  T  *  V  R  Y
3121 - ACAGAGGATGATTATCAAGGTCTCCCTCTGGAATTTGGTGCCTCAGCTGAAACAGTTCGA - 3180
     - T  E  D  D  Y  Q  G  L  P  L  E  F  G  A  S  A  E  T  V  R
     - Q  R  M  I  I  K  V  S  L  W  N  L  V  P  Q  L  K  Q  F  E
     - R  G  *  L  S  R  S  P  S  G  I  W  C  L  S  *  N  S  S  S
3181 - GTTGAGGAAGAAGAAGAGGAAGACTGGCTGGATGATACTACTGAGCAATCAGAGATTGAG - 3240
     - V  E  E  E  E  E  D  W  L  D  D  T  T  E  Q  S  E  I  E
     - L  R  K  K  K  R  K  T  G  W  M  I  L  L  S  N  Q  R  L  S
     - *  G  R  R  R  G  R  L  A  G  *  Y  Y  *  A  I  R  D  *  A
3241 - CCAGAACCAGAACCTACACCTGAAGAACCAGTTAATCAGTTTACTGGTTATTTAAAACTT - 3300
     - P  E  P  E  P  T  P  E  E  P  V  N  Q  F  T  G  Y  L  K  L
     - Q  N  Q  N  L  H  L  K  N  Q  L  I  S  L  L  V  I  *  N  L
     - R  T  R  T  Y  T  *  R  T  S  *  S  V  Y  W  L  F  K  T  Y
3301 - ACTGACAATGTTGCCATTAAATGTGTTGACATCGTTAAGGAGGCACAAAGTGCTAATCCT - 3360
     - T  D  N  V  A  I  K  C  V  D  I  V  K  E  A  Q  S  A  N  P
     - L  T  M  L  P  L  N  V  L  T  S  L  R  R  H  K  V  L  I  L
     - *  Q  C  C  H  *  M  C  *  H  R  *  G  G  T  K  C  *  S  Y
```

FIG. 11 Con't

```
3361 - ATGGTGATTGTAAATGCTGCTAACATACACCTGAAACATGGTGGTGGTGTAGCAGGTGCA - 3420
     - M  V  I  V  N  A  A  N  I  H  L  K  H  G  G  G  V  A  G  A
     - W  *  L  *  M  L  L  T  Y  T  *  N  M  V  V  V  *  Q  V  H
     -  G  D  C  K  C  C  *  H  T  P  E  T  W  W  W  C  S  R  C  T
3421 - CTCAACAAGGCAACCAATGGTGCCATGCAAAAGGAGAGTGATGATTACATTAAGCTAAAT - 3480
     - L  N  K  A  T  N  G  A  M  Q  K  E  S  D  D  Y  I  K  L  N
     - S  T  R  Q  P  M  V  P  C  K  R  R  V  M  I  T  L  S  *  M
     -  Q  Q  G  N  Q  W  C  H  A  K  G  E  *  *  L  H  *  A  K  W
3481 - GGCCCTCTTACAGTAGGAGGGTCTTGTTTGCTTTCTGGACATAATCTTGCTAAGAAGTGT - 3540
     - G  P  L  T  V  G  G  S  C  L  L  S  G  H  N  L  A  K  K  C
     - A  L  L  Q  *  E  G  L  V  C  F  L  D  I  I  L  L  R  S  V
     -  P  S  Y  S  R  R  V  L  F  A  F  W  T  *  S  C  *  E  V  S
3541 - CTGCATGTTGTTGGACCTAACCTAAATGCAGGTGAGGACATCCAGCTTCTTAAGGCAGCA - 3600
     - L  H  V  V  G  P  N  L  N  A  G  E  D  I  Q  L  L  K  A  A
     - C  M  L  L  D  L  T  *  M  Q  V  R  T  S  S  F  L  R  Q  H
     -  A  C  C  W  T  *  P  K  C  R  *  G  H  P  A  S  *  G  S  I
3601 - TATGAAAATTTCAATTCACAGGACATCTTACTTGCACCATTGTTGTCAGCAGGCATATTT - 3660
     - Y  E  N  F  N  S  Q  D  I  L  L  A  P  L  L  S  A  G  I  F
     - M  K  I  S  I  H  R  T  S  Y  L  H  H  C  C  Q  Q  A  Y  L
     -  *  K  F  Q  F  T  G  H  L  T  C  T  I  V  V  S  R  H  I  W
3661 - GGTGCTAAACCACTTCAGTCTTTACAAGTGTGCGTGCAGACGGTTCGTACACAGGTTTAT - 3720
     - G  A  K  P  L  Q  S  L  Q  V  C  V  Q  T  V  R  T  Q  V  Y
     - V  L  N  H  F  S  L  Y  K  C  A  C  R  R  F  V  H  R  F  I
     -  C  *  T  T  S  V  F  T  S  V  R  A  D  G  S  Y  T  G  L  Y
3721 - ATTGCAGTCAATGACAAAGCTCTTTATGAGCAGGTTGTCATGGATTATCTTGATAACCTG - 3780
     - I  A  V  N  D  K  A  L  Y  E  Q  V  V  M  D  Y  L  D  N  L
     - L  Q  S  M  T  K  L  F  M  S  R  L  S  W  I  I  L  I  T  *
     -  C  S  Q  *  Q  S  S  L  *  A  G  C  H  G  L  S  *  *  P  E
3781 - AAGCCTAGAGTGGAAGCACCTAAACAAGAGGAGCCACCAAACACAGAAGATTCCAAAACT - 3840
     - K  P  R  V  E  A  P  K  Q  E  E  P  P  N  T  E  D  S  K  T
     - S  L  E  W  K  H  L  N  K  R  S  H  Q  T  Q  K  I  P  K  L
     -  A  *  S  G  S  T  *  T  R  G  A  T  K  H  R  R  F  Q  N  *
3841 - GAGGAGAAATCTGTCGTACAGAAGCCTGTCGATGTGAAGCCAAAAATTAAGGCCTGCATT - 3900
     - E  E  K  S  V  V  Q  K  P  V  D  V  K  P  K  I  K  A  C  I
     - R  R  N  L  S  Y  R  S  L  S  M  *  S  Q  K  L  R  P  A  L
     -  G  E  I  C  R  T  E  A  C  R  C  E  A  K  N  *  G  L  H  *
3901 - GATGAGGTTACCACAACACTGGAAGAAACTAAGTTTCTTACCAATAAGTTACTCTTGTTT - 3960
     - D  E  V  T  T  T  L  E  E  T  K  F  L  T  N  K  L  L  F
     - M  R  L  P  Q  H  W  K  K  L  S  F  L  P  I  S  Y  S  C  L
     -  *  G  Y  H  N  T  G  R  N  *  V  S  Y  Q  *  V  T  L  V  C
3961 - GCTGATATCAATGGTAAGCTTTACCATGATTCTCAGAACATGCTTAGAGGTGAAGATATG - 4020
     - A  D  I  N  G  K  L  Y  H  D  S  Q  N  M  L  R  G  E  D  M
     - L  I  S  M  V  S  F  T  M  I  L  R  T  C  L  E  V  K  I  C
     -  *  Y  Q  W  *  A  L  P  *  F  S  E  H  A  *  R  *  R  Y  V
4021 - TCTTTCCTTGAGAAGGATGCACCTTACATGGTAGGTGATGTTATCACTAGTGGTGATATC - 4080
     - S  F  L  E  K  D  A  P  Y  M  V  G  D  V  I  T  S  G  D  I
     - L  S  L  R  R  M  H  L  T  W  *  V  M  L  S  L  V  V  I  S
     -  F  P  *  E  G  C  T  L  H  G  R  *  C  Y  H  *  W  *  Y  H
4081 - ACTTGTGTTGTAATACCCTCCAAAAAGGCTGGTGGCACTACTGAGATGCTCTCAAGAGCT - 4140
     - T  C  V  V  I  P  S  K  K  A  G  G  T  T  E  M  L  S  R  A
     - L  V  L  *  Y  P  P  K  R  L  V  A  L  L  R  C  S  Q  E  L
     -  L  C  C  N  T  L  Q  K  G  W  W  H  Y  *  D  A  L  K  S  F
4141 - TTGAAGAAAGTGCCAGTTGATGAGTATATAACCACGTACCCTGGACAAGGATGTGCTGGT - 4200
     - L  K  K  V  P  V  D  E  Y  I  T  T  Y  P  G  Q  G  C  A  G
     - *  R  K  C  Q  L  M  S  I  *  P  R  T  L  D  K  D  V  L  V
     -  E  E  S  A  S  *  *  V  Y  N  H  V  P  W  T  R  M  C  W  L
```

FIG. 11 Con't

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4201 - TATACACTTGAGGAAGCTAAGACTGCTCTTAAGAAATGCAAATCTGCATTTTATGTACTA - 4260
     - Y  T  L  E  E  A  K  T  A  L  K  K  C  K  S  A  F  Y  V  L
     - I  H  L  R  K  L  R  L  L  L  R  N  A  N  L  H  F  M  Y  Y
     - Y  T  *  G  S  *  D  C  S  *  E  M  Q  I  C  I  L  C  T  T
4261 - CCTTCAGAAGCACCTAATGCTAAGGAAGAGATTCTAGGAACTGTATCCTGGAATTTGAGA - 4320
     - P  S  E  A  P  N  A  K  E  E  I  L  G  T  V  S  W  N  L  R
     - L  Q  K  H  L  M  L  R  K  R  F  *  E  L  Y  P  G  I  *  E
     - F  R  S  T  *  C  *  G  R  D  S  R  N  C  I  L  E  F  E  R
4321 - GAAATGCTTGCTCATGCTGAAGAGACAAGAAAATTAATGCCTATATGCATGGATGTTAGA - 4380
     - E  M  L  A  H  A  E  E  T  R  K  L  M  P  I  C  M  D  V  R
     - K  C  L  L  M  L  K  R  Q  E  N  *  C  L  Y  A  W  M  L  E
     - N  A  C  S  C  *  R  D  K  K  I  N  A  Y  M  H  G  C  *  S
4381 - GCCATAATGGCAACCATCCAACGTAAGTATAAAGGAATTAAAATTCAAGAGGGCATCGTT - 4440
     - A  I  M  A  T  I  Q  R  K  Y  K  G  I  K  I  Q  E  G  I  V
     - P  *  W  Q  P  S  N  V  S  I  K  E  L  K  F  K  R  A  S  L
     - H  N  G  N  H  P  T  *  V  *  R  N  *  N  S  R  G  H  R  *
4441 - GACTATGGTGTCCGATTCTTCTTTTATACTAGTAAAGAGCCTGTAGCTTCTATTATTACG - 4500
     - D  Y  G  V  R  F  F  F  Y  T  S  K  E  P  V  A  S  I  I  T
     - T  M  V  S  D  S  S  F  I  L  V  K  S  L  *  L  L  L  L  R
     - L  W  C  P  I  L  L  L  Y  *  *  R  A  C  S  F  Y  Y  Y  E
4501 - AAGCTGAACTCTCTAAATGAGCCGCTTGTCACAATGCCAATTGGTTATGTGACACATGGT - 4560
     - K  L  N  S  L  N  E  P  L  V  T  M  P  I  G  Y  V  T  H  G
     - S  *  T  L  *  M  S  R  L  S  Q  C  Q  L  V  M  *  H  M  V
     - A  E  L  S  K  *  A  A  C  H  N  A  N  W  L  C  D  T  W  F
4561 - TTTAATCTTGAAGAGGCTGCGCGCTGTATGCGTTCTCTTAAAGCTCCTGCCGTAGTGTCA - 4620
     - F  N  L  E  E  A  A  R  C  M  R  S  L  K  A  P  A  V  V  S
     - L  I  L  K  R  L  R  A  V  C  V  L  L  K  L  L  P  *  C  Q
     - *  S  *  R  G  C  A  L  Y  A  F  S  *  S  S  C  R  S  V  S
4621 - GTATCATCACCAGATGCTGTTACTACATATAATGGATACCTCACTTCGTCATCAAAGACA - 4680
     - V  S  S  P  D  A  V  T  T  Y  N  G  Y  L  T  S  S  S  K  T
     - Y  H  H  Q  M  L  L  L  H  I  M  D  T  S  L  R  H  Q  R  H
     - I  I  T  R  C  C  Y  Y  I  *  W  I  P  H  F  V  I  K  D  I
4681 - TCTGAGGAGCACTTTGTAGAAACAGTTTCTTTGGCTGGCTCTTACAGAGATTGGTCCTAT - 4740
     - S  E  E  H  F  V  E  T  V  S  L  A  G  S  Y  R  D  W  S  Y
     - L  R  S  T  L  *  K  Q  F  L  W  L  A  L  T  E  I  G  P  I
     - *  G  A  L  C  R  N  S  F  F  G  W  L  L  Q  R  L  V  L  F
4741 - TCAGGACAGCGTACAGAGTTAGGTGTTGAATTTCTTAAGCGTGGTGACAAAATTGTGTAC - 4800
     - S  G  Q  R  T  E  L  G  V  E  F  L  K  R  G  D  K  I  V  Y
     - Q  D  S  V  Q  S  *  V  L  N  F  L  S  V  V  T  K  L  C  T
     - R  T  A  Y  R  V  R  C  *  I  S  *  A  W  *  Q  N  C  V  P
4801 - CACACTCTGGAGAGCCCCGTCGAGTTTCATCTTGACGGTGAGGTTCTTTCACTTGACAAA - 4860
     - H  T  L  E  S  P  V  E  F  H  L  D  G  E  V  L  S  L  D  K
     - T  L  W  R  A  P  S  S  F  I  L  T  V  R  F  F  H  L  T  N
     - H  S  G  E  P  R  R  V  S  S  *  R  *  G  S  F  T  *  Q  T
4861 - CTAAAGAGTCTCTTATCCCTGCGGGAGGTTAAGACTATAAAAGTGTTCACAACTGTGGAC - 4920
     - L  K  S  L  L  S  L  R  E  V  K  T  I  K  V  F  T  T  V  D
     - *  R  V  S  Y  P  C  G  R  L  R  L  *  K  C  S  Q  L  W  T
     - K  E  S  L  I  P  A  G  G  *  D  Y  K  S  V  H  N  C  G  Q
4921 - AACACTAATCTCCACACACAGCTTGTGGATATGTCTATGACATATGGACAGCAGTTTGGT - 4980
     - N  T  N  L  H  T  Q  L  V  D  M  S  M  T  Y  G  Q  Q  F  G
     - T  L  I  S  T  H  S  L  W  I  C  L  *  H  M  D  S  S  L  V
     - H  *  S  P  H  T  A  C  G  Y  V  V  Y  D  I  W  T  A  V  W  S
4981 - CCAACATACTTGGATGGTGCTGATGTTACAAAAATTAAACCTCATGTAAATCATGAGGGT - 5040
     - P  T  Y  L  D  G  A  D  V  T  K  I  K  P  H  V  N  H  E  G
     - Q  H  T  W  M  V  L  M  L  Q  K  L  N  L  M  *  I  M  R  V
     - N  I  L  G  W  C  *  C  Y  K  N  *  T  S  C  K  S  *  G  *
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FIG. 11 Con't

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5041 - AAGACTTTCTTTGTACTACCTAGTGATGACACACTACGTAGTGAAGCTTTCGAGTACTAC - 5100
     - K  T  F  F  V  L  P  S  D  D  T  L  R  S  E  A  F  E  Y  Y
     - R  L  S  L  Y  Y  L  V  M  T  H  Y  V  V  K  L  S  S  T  T
     - D  F  L  C  T  T  *  *  *  H  T  T  *  *  S  F  R  V  L  P
5101 - CATACTCTTGATGAGAGTTTTCTTGGTAGGTACATGTCTGCTTTAAACCACACAAAGAAA - 5160
     - H  T  L  D  E  S  F  L  G  R  Y  M  S  A  L  N  H  T  K  K
     - I  L  L  M  R  V  F  L  V  G  T  C  L  L  *  T  T  Q  R  N
     - Y  S  *  *  E  F  S  W  *  V  H  V  C  F  K  P  H  K  E  M
5161 - TGGAAATTTCCTCAAGTTGGTGGTTTAACTTCAATTAAATGGGCTGATAACAATTGTTAT - 5220
     - W  K  F  P  Q  V  G  G  L  T  S  I  K  W  A  D  N  N  C  Y
     - G  N  F  L  K  L  V  V  *  L  Q  L  N  G  L  I  T  I  V  I
     - E  I  S  S  S  W  W  F  N  F  N  *  M  G  *  *  Q  L  L  F
5221 - TTGTCTAGTGTTTTATTAGCACTTCAACAGCTTGAAGTCAAATTCAATGCACCAGCACTT - 5280
     - L  S  S  V  L  L  A  L  Q  Q  L  E  V  K  F  N  A  P  A  L
     - C  L  V  F  Y  *  H  F  N  S  L  K  S  N  S  M  H  Q  H  F
     - V  *  C  F  I  S  T  S  T  A  *  S  Q  I  Q  C  T  S  T  S
5281 - CAAGAGGCTTATTATAGAGCCCGTGCTGGTGATGCTGCTAACTTTTGTGCACTCATACTC - 5340
     - Q  E  A  Y  Y  R  A  R  A  G  D  A  A  N  F  C  A  L  I  L
     - K  R  L  I  I  E  P  V  L  V  M  L  L  T  F  V  H  S  Y  S
     - R  G  L  L  *  S  P  C  W  *  C  C  *  L  L  C  T  H  T  R
5341 - GCTTACAGTAATAAAACTGTTGGCGAGCTTGGTGATGTCAGAGAAACTATGACCCATCTT - 5400
     - A  Y  S  N  K  T  V  G  E  L  G  D  V  R  E  T  M  T  H  L
     - L  T  V  I  K  L  L  A  S  L  V  M  S  E  K  L  *  P  I  F
     - L  Q  *  *  N  C  W  R  A  W  *  C  Q  R  N  Y  D  P  S  S
5401 - CTACAGCATGCTAATTTGGAATCTGCAAAGCGAGTTCTTAATGTGGTGTGTAAACATTGT - 5460
     - L  Q  H  A  N  L  E  S  A  K  R  V  L  N  V  V  C  K  H  C
     - Y  S  M  L  I  W  N  L  Q  S  E  F  L  M  W  C  V  N  I  V
     - T  A  C  *  F  G  I  C  K  A  S  S  *  C  G  V  *  T  L  W
5461 - GGTCAGAAAACTACTACCTTAACGGGTGTAGAAGCTGTGATGTATATGGGTACTCTATCT - 5520
     - G  Q  K  T  T  T  L  T  G  V  E  A  V  M  Y  M  G  T  L  S
     - V  R  K  L  L  P  *  R  V  *  K  L  *  C  I  W  V  L  Y  L
     - S  E  N  Y  Y  L  N  G  C  R  S  C  D  V  Y  G  Y  S  I  L
5521 - TATGATAATCTTAAGACAGGTGTTTCCATTCCATGTGTGTGTGGTCGTGATGCTACACAA - 5580
     - Y  D  N  L  K  T  G  V  S  I  P  C  V  C  G  R  D  A  T  Q
     - M  I  I  L  R  Q  V  F  P  F  H  V  C  V  V  V  M  L  H  N
     - *  *  S  *  D  R  C  F  H  S  M  C  V  W  S  *  C  Y  T  I
5581 - TATCTAGTACAACAAGAGTCTTCTTTTGTTATGATGTCTGCACCACCTGCTGAGTATAAA - 5640
     - Y  L  V  Q  Q  E  S  S  F  V  M  M  S  A  P  P  A  E  Y  K
     - I  *  Y  N  K  S  L  L  L  L  *  C  L  H  H  L  L  S  I  N
     - S  S  T  T  R  V  F  F  C  Y  D  V  C  T  T  C  *  V  *  I
5641 - TTACAGCAAGGTACATTCTTATGTGCGAATGAGTACACTGGTAACTATCAGTGTGGTCAT - 5700
     - L  Q  Q  G  T  F  L  C  A  N  E  Y  T  G  N  Y  Q  C  G  H
     - Y  S  K  V  H  S  Y  V  R  M  S  T  L  V  T  I  S  V  V  I
     - T  A  R  Y  I  L  M  C  E  *  V  H  W  *  L  S  V  W  S  L
5701 - TACACTCATATAACTGCTAAGGAGACCCTCTATCGTATTGACGGAGCTCACCTTACAAAG - 5760
     - Y  T  H  I  T  A  K  E  T  L  Y  R  I  D  G  A  H  L  T  K
     - T  L  I  *  L  L  R  R  P  S  I  V  L  T  E  L  T  L  Q  R
     - H  S  Y  N  C  *  G  D  P  L  S  Y  *  R  S  S  P  Y  K  D
5761 - ATGTCAGAGTACAAAGGACCAGTGACTGATGTTTTCTACAAGGAAACATCTTACACTACA - 5820
     - M  S  E  Y  K  G  P  V  T  D  V  F  Y  K  E  T  S  Y  T  T
     - C  Q  S  T  K  D  Q  *  L  M  F  S  T  R  K  H  L  T  L  Q
     - V  R  V  Q  R  T  S  D  *  C  F  L  Q  G  N  I  L  H  Y  N
5821 - ACCATCAAGCCTGTGTCGTATAAACTCGATGGAGTTACTTACACAGAGATTGAACCAAAA - 5880
     - T  I  K  P  V  S  Y  K  L  D  G  V  T  Y  T  E  I  E  P  K
     - P  S  S  L  C  R  I  N  S  M  E  L  L  T  Q  R  L  N  Q  N
     - H  Q  A  C  V  V  *  T  R  W  S  Y  L  H  R  D  *  T  K  I
```

FIG. 11 Con't

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5881 - TTGGATGGGTATTATAAAAAGGATAATGCTTACTATACAGAGCAGCCTATAGACCTTGTA - 5940
     -  L  D  G  Y  Y  K  K  D  N  A  Y  Y  T  E  Q  P  I  D  L  V
     -  W  M  G  I  I  K  R  I  M  L  T  I  Q  S  S  L  *  T  L  Y
     -  G  W  V  L  *  K  G  *  C  L  L  Y  R  A  A  Y  R  P  C  T
5941 - CCAACTCAACCATTACCAAATGCGAGTTTTGATAATTTCAAACTCACATGTTCTAACACA - 6000
     -  P  T  Q  P  L  P  N  A  S  F  D  N  F  K  L  T  C  S  N  T
     -  Q  L  N  H  Y  Q  M  R  V  L  I  I  S  N  S  H  V  L  T  Q
     -  N  S  T  I  T  K  C  E  F  *  *  F  Q  T  H  M  F  *  H  K
6001 - AAATTTGCTGATGATTTAAATCAAATGACAGGCTTCACAAAGCCAGCTTCACGAGAGCTA - 6060
     -  K  F  A  D  D  L  N  Q  M  T  G  F  T  K  P  A  S  R  E  L
     -  N  L  L  M  I  *  I  K  *  Q  A  S  Q  S  Q  L  H  E  S  Y
     -  I  C  *  *  F  K  S  N  D  R  L  H  K  A  S  F  T  R  A  I
6061 - TCTGTCACATTCTTCCCAGACTTGAATGGCGATGTAGTGGCTATTGACTATAGACACTAT - 6120
     -  S  V  T  F  F  P  D  L  N  G  D  V  V  A  I  D  Y  R  H  Y
     -  L  S  H  S  S  Q  T  *  M  A  M  *  W  L  L  T  I  D  T  I
     -  C  H  I  L  P  R  L  E  W  R  C  S  G  Y  *  L  *  T  L  F
6121 - TCAGCGAGTTTCAAGAAAGGTGCTAAATTACTGCATAAGCCAATTGTTTGGCACATTAAC - 6180
     -  S  A  S  F  K  K  G  A  K  L  L  H  K  P  I  V  W  H  I  N
     -  Q  R  V  S  R  K  V  L  N  Y  C  I  S  Q  L  F  G  T  L  T
     -  S  E  F  Q  E  R  C  *  I  T  A  *  A  N  C  L  A  H  *  P
6181 - CAGGCTACAACCAAGACAACGTTCAAACCAAACACTTGGTGTTTACGTTGTCTTTGGAGT - 6240
     -  Q  A  T  T  K  T  T  F  K  P  N  T  W  C  L  R  C  L  W  S
     -  R  L  Q  P  R  Q  R  S  N  Q  T  L  G  V  Y  Y  V  V  F  G  V
     -  G  Y  N  Q  D  N  V  Q  T  K  H  L  V  F  T  L  S  L  E  Y
6241 - ACAAAGCCAGTAGATACTTCAAATTCATTTGAAGTTCTGGCAGTAGAAGACACACAAGGA - 6300
     -  T  K  P  V  D  T  S  N  S  F  E  V  L  A  V  E  D  T  Q  G
     -  Q  S  Q  *  I  L  Q  I  H  L  K  F  W  Q  *  K  T  H  K  E
     -  K  A  S  R  Y  F  K  F  I  *  S  S  G  S  R  R  H  T  R  N
6301 - ATGGACAATCTTGCTTGTGAAAGTCAACAACCCACCTCTGAAGAAGTAGTGGAAAATCCT - 6360
     -  M  D  N  L  A  C  E  S  Q  Q  P  T  S  E  E  V  V  E  N  P
     -  W  T  I  L  L  V  K  V  N  N  P  P  L  K  K  *  W  K  I  L
     -  G  Q  S  C  L  *  K  S  T  T  H  L  *  R  S  S  G  K  S  Y
6361 - ACCATACAGAAGGAAGTCATAGAGTGTGACGTGAAAACTACCGAAGTTGTAGGCAATGTC - 6420
     -  T  I  Q  K  E  V  I  E  C  D  V  K  T  T  E  V  V  G  N  V
     -  P  Y  R  R  K  S  *  S  V  T  *  K  L  P  K  L  *  A  M  S
     -  H  T  E  G  S  H  R  V  *  R  E  N  Y  R  S  C  R  Q  C  H
6421 - ATACTTAAACCATCAGATGAAGGTGTTAAAGTAACACAAGAGTTAGGTCATGAGGATCTT - 6480
     -  I  L  K  P  S  D  E  G  V  K  V  T  Q  E  L  G  H  E  D  L
     -  Y  L  N  H  Q  M  K  V  L  K  *  H  K  S  *  V  M  R  I  L
     -  T  *  T  I  R  *  R  C  *  S  N  T  R  V  R  S  *  G  S  Y
6481 - ATGGCTGCTTATGTGGAAAACACAAGCATTACCATTAAGAAACCTAATGAGCTTTCACTA - 6540
     -  M  A  A  Y  V  E  N  T  S  I  T  I  K  K  P  N  E  L  S  L
     -  W  L  L  M  W  K  T  Q  A  L  P  L  R  N  L  M  S  F  H  *
     -  G  C  L  C  G  K  H  K  H  Y  H  *  E  T  *  *  A  F  T  S
6541 - GCCTTAGGTTTAAAAACAATTGCCACTCATGGTATTGCTGCAATTAATAGTGTTCCTTGG - 6600
     -  A  L  G  L  K  T  I  A  T  H  G  I  A  A  I  N  S  V  P  W
     -  P  *  V  *  K  Q  L  P  L  M  V  L  L  Q  L  I  V  F  L  G
     -  L  R  F  K  N  N  C  H  S  W  Y  C  C  N  *  *  C  S  L  E
6601 - AGTAAAATTTTGGCTTATGTCAAACCATTCTTAGGACAAGCAGCAATTACAACATCAAAT - 6660
     -  S  K  I  L  A  Y  V  K  P  F  L  G  Q  A  A  I  T  T  S  N
     -  V  K  F  W  L  M  S  N  H  S  *  D  K  Q  Q  L  Q  H  Q  I
     -  *  N  F  G  L  C  Q  T  I  L  R  T  S  S  N  Y  N  I  K  L
6661 - TGCGCTAAGAGATTAGCACAACGTGTGTTTAACAATTATATGCCTTATGTGTTTACATTA - 6720
     -  C  A  K  R  L  A  Q  R  V  F  N  N  Y  M  P  Y  V  F  T  L
     -  A  L  R  D  *  H  N  V  C  L  T  I  I  C  L  M  C  L  H  Y
     -  R  *  E  I  S  T  T  C  V  *  Q  L  Y  A  L  C  V  Y  I  I
```

FIG. 11 Con't

```
6721 - TTGTTCCAATTGTGTACTTTTACTAAAAGTACCAATTCTAGAATTAGAGCTTCACTACCT - 6780
     - L  F  Q  L  C  T  F  T  K  S  T  N  S  R  I  R  A  S  L  P
     - C  S  N  C  V  L  L  L  K  V  P  I  L  E  L  E  L  H  Y  L
     -  V  P  I  V  Y  F  Y  *  K  Y  Q  F  *  N  *  S  F  T  T  Y
6781 - ACAACTATTGCTAAAAATAGTGTTAAGAGTGTTGCTAAATTATGTTTGGATGCCGGCATT - 6840
     - T  T  I  A  K  N  S  V  K  S  V  A  K  L  C  L  D  A  G  I
     - Q  L  L  L  K  I  V  L  R  V  L  L  N  Y  V  W  M  P  A  L
     -  N  Y  C  *  K  *  C  *  E  C  C  *  I  M  F  G  C  R  H  *
6841 - AATTATGTGAAGTCACCCAAATTTTCTAAATTGTTCACAATCGCTATGTGGCTATTGTTG - 6900
     - N  Y  V  K  S  P  K  F  S  K  L  F  T  I  A  M  W  L  L  L
     - I  M  *  S  H  P  N  F  L  N  C  S  Q  S  L  C  G  Y  C  C
     -  L  C  E  V  T  Q  I  F  *  I  V  H  N  R  Y  V  A  I  V  V
6901 - TTAAGTATTTGCTTAGGTTCTCTAATCTGTGTAACTGCTGCTTTTGGTGTACTCTTATCT - 6960
     - L  S  I  C  L  G  S  L  I  C  V  T  A  A  F  G  V  L  L  S
     - *  V  F  A  *  V  L  *  S  V  *  L  L  L  L  V  Y  S  Y  L
     -  K  Y  L  L  R  F  S  N  L  C  N  C  C  F  W  C  T  L  I  *
6961 - AATTTTGGTGCTCCTTCTTATTGTAATGGCGTTAGAGAATTGTATCTTAATTCGTCTAAC - 7020
     - N  F  G  A  P  S  Y  C  N  G  V  R  E  L  Y  L  N  S  S  N
     - I  L  V  L  L  L  I  V  M  A  L  E  N  C  I  L  I  R  L  T
     -  F  W  C  S  F  L  L  *  W  R  *  R  I  V  S  *  F  V  *  R
7021 - GTTACTACTATGGATTTCTGTGAAGGTTCTTTTCCTTGCAGCATTTGTTAAGTGGATTA - 7080
     - V  T  T  M  D  F  C  E  G  S  F  P  C  S  I  C  L  S  G  L
     - L  L  L  W  I  S  V  K  V  L  F  L  A  A  F  V  *  V  D  *
     -  Y  Y  Y  G  F  L  *  R  F  F  S  L  Q  H  L  F  K  W  I  R
7081 - GACTCCCTTGATTCTTATCCAGCTCTTGAAACCATTCAGGTGACGATTTCATCGTACAAG - 7140
     - D  S  L  D  S  Y  P  A  L  E  T  I  Q  V  T  I  S  S  Y  K
     - T  P  L  I  L  I  Q  L  L  K  P  F  R  *  R  F  H  R  T  S
     -  L  P  *  F  L  S  S  S  *  N  H  S  G  D  D  F  I  V  Q  A
7141 - CTAGACTTGACAATTTTAGGTCTGGCCGCTGAGTGGGTTTTGGCATATATGTTGTTCACA - 7200
     - L  D  L  T  I  L  G  L  A  A  E  W  V  L  A  Y  M  L  F  T
     - *  T  *  Q  F  *  V  W  P  L  S  G  F  W  H  I  C  C  S  Q
     -  R  L  D  N  F  R  S  G  R  *  V  G  F  G  I  Y  V  V  H  K
7201 - AAATTCTTTTATTTATTAGGTCTTTCAGCTATAATGCAGGTGTTCTTTGGCTATTTTGCT - 7260
     - K  F  F  Y  L  L  G  L  S  A  I  M  Q  V  F  F  G  Y  F  A
     - N  S  F  I  Y  *  V  F  Q  L  *  C  R  C  S  L  A  I  L  L
     -  I  L  L  F  I  R  S  F  S  Y  N  A  G  V  L  W  L  F  C  *
7261 - AGTCATTTCATCAGCAATTCTTGGCTCATGTGGTTTATCATTAGTATTGTACAAATGGCA - 7320
     - S  H  F  I  S  N  S  W  L  M  W  F  I  I  S  I  V  Q  M  A
     - V  I  S  S  A  I  L  G  S  C  G  L  S  L  V  L  Y  K  W  H
     -  S  F  H  Q  Q  F  L  A  H  V  V  Y  H  *  Y  C  T  N  G  T
7321 - CCCGTTTCTGCAATGGTTAGGATGTACATCTTCTTTGCTTCTTTCTACTACATATGGAAG - 7380
     - P  V  S  A  M  V  R  M  Y  I  F  F  A  S  F  Y  Y  I  W  K
     - P  F  L  Q  W  L  G  C  T  S  S  L  L  L  S  T  T  Y  G  R
     -  R  F  C  N  G  *  D  V  H  L  L  C  F  F  L  L  H  M  E  E
7381 - AGCTATGTTCATATCATGGATGGTTGCACCTCTTCGACTTGCATGATGTGCTATAAGCGC - 7440
     - S  Y  V  H  I  M  D  G  C  T  S  S  T  C  M  M  C  Y  K  R
     - A  M  F  I  S  W  M  V  A  P  L  R  L  A  *  C  A  I  S  A
     -  L  C  S  Y  H  G  W  L  H  L  F  D  L  H  D  V  L  *  A  Q
7441 - AATCGTGCCACACGCGTTGAGTGTACAACTATTGTTAATGGCATGAAGAGATCTTTCTAT - 7500
     - N  R  A  T  R  V  E  C  T  T  I  V  N  G  M  K  R  S  F  Y
     - I  V  P  H  A  L  S  V  Q  L  L  L  M  A  *  R  D  L  S  M
     -  S  C  H  T  R  *  V  Y  N  Y  C  *  W  H  E  E  I  F  L  C
7501 - GTCTATGCAAATGGAGGCCGTGGCTTCTGCAAGACTCACAATTGGAATTGTCTCAATTGT - 7560
     - V  Y  A  N  G  G  R  G  F  C  K  T  H  N  W  N  C  L  N  C
     - S  M  Q  M  E  A  V  A  S  A  R  L  T  I  G  I  V  S  I  V
     -  L  C  K  W  R  P  W  L  L  Q  D  S  Q  L  E  L  S  Q  L  *
```

FIG. 11 Con't

```
7561 - GACACATTTTGCACTGGTAGTACATTCATTAGTGATGAAGTTGCTCGTGATTTGTCACTC - 7620
     - D  T  F  C  T  G  S  T  F  I  S  D  E  V  A  R  D  L  S  L
     -  T  H  F  A  L  V  V  H  S  L  V  M  K  L  L  V  I  C  H  S
     -   H  I  L  H  W  *  Y  I  H  *  *  *  S  C  S  *  F  V  T  P
7621 - CAGTTTAAAAGACCAATCAACCCTACTGACCAGTCATCGTATATTGTTGATAGTGTTGCT - 7680
     - Q  F  K  R  P  I  N  P  T  D  Q  S  S  Y  I  V  D  S  V  A
     -  S  L  K  D  Q  S  T  L  L  T  S  H  R  I  L  L  I  V  L  L
     -   V  *  K  T  N  Q  P  Y  *  P  V  I  V  Y  C  *  *  C  C  C
7681 - GTGAAAAATGGCGCGCTTCACCTCTACTTTGACAAGGCTGGTCAAAAGACCTATGAGAGA - 7740
     - V  K  N  G  A  L  H  L  Y  F  D  K  A  G  Q  K  T  Y  E  R
     -  *  K  M  A  R  F  T  S  T  L  T  R  L  V  K  R  P  M  R  D
     -   E  K  W  R  A  S  P  L  L  *  Q  G  W  S  K  D  L  *  E  T
7741 - CATCCGCTCTCCCATTTTGTCAATTTAGACAATTTGAGAGCTAACAACACTAAAGGTTCA - 7800
     - H  P  L  S  H  F  V  N  L  D  N  L  R  A  N  N  T  K  G  S
     -  I  R  S  P  I  L  S  I  *  T  I  *  E  L  T  T  L  K  V  H
     -   S  A  L  P  F  C  Q  F  R  Q  F  E  S  *  Q  H  *  R  F  T
7801 - CTGCCTATTAATGTCATAGTTTTTGATGGCAAGTCCAAATGCGACGAGTCTGCTTCTAAG - 7860
     - L  P  I  N  V  I  V  F  D  G  K  S  K  C  D  E  S  A  S  K
     -  C  L  L  M  S  *  F  L  M  A  S  P  N  A  T  S  L  L  L  S
     -   A  Y  *  C  H  S  F  *  W  Q  V  Q  M  R  R  V  C  F  *  V
7861 - TCTGCTTCTGTGTACTACAGTCAGCTGATGTGCCAACCTATTCTGTTGCTTGACCAAGCT - 7920
     - S  A  S  V  Y  Y  S  Q  L  M  C  Q  P  I  L  L  L  D  Q  A
     -  L  L  L  C  T  T  V  S  *  C  A  N  L  F  C  C  L  T  K  L
     -   C  F  C  V  L  Q  S  A  D  V  P  T  Y  S  V  A  *  P  S  S
7921 - CTTGTATCAAACGTTGGAGATAGTACTGAAGTTTCCGTTAAGATGTTTGATGCTTATGTC - 7980
     - L  V  S  N  V  G  D  S  T  E  V  S  V  K  M  F  D  A  Y  V
     -  L  Y  Q  T  L  E  I  V  L  K  F  P  L  R  C  L  M  L  M  S
     -   C  I  K  R  W  R  *  Y  *  S  F  R  *  D  V  *  C  L  C  R
7981 - GACACCTTTTCAGCAACTTTTAGTGTTCCTATGGAAAAACTTAAGGCACTTGTTGCTACA - 8040
     - D  T  F  S  A  T  F  S  V  P  M  E  K  L  K  A  L  V  A  T
     -  T  P  F  Q  Q  L  L  V  F  L  W  K  N  L  R  H  L  L  L  Q
     -   H  L  F  S  N  F  *  C  S  Y  G  K  T  *  G  T  C  C  Y  S
8041 - GCTCACAGCGAGTTAGCAAAGGGTGTAGCTTTAGATGGTGTCCTTTCTACATTCGTGTCA - 8100
     - A  H  S  E  L  A  K  G  V  A  L  D  G  V  L  S  T  F  V  S
     -  L  T  A  S  *  Q  R  V  *  L  *  M  V  S  F  L  H  S  C  Q
     -   S  Q  R  V  S  K  G  C  S  F  R  W  C  P  F  Y  I  R  V  S
8101 - GCTGCCCGACAAGGTGTTGTTGATACCGATGTTGACACAAAGGATGTTATTGAATGTCTC - 8160
     - A  A  R  Q  G  V  V  D  T  D  V  D  T  K  D  V  I  E  C  L
     -  L  P  D  K  V  L  L  I  P  M  L  T  Q  R  M  L  L  N  V  S
     -   C  P  T  R  C  C  *  Y  R  C  *  H  K  G  C  Y  *  M  S  Q
8161 - AAACTTTCACATCACTCTGACTTAGAAGTGACAGGTGACAGTTGTAACAATTTCATGCTC - 8220
     - K  L  S  H  H  S  D  L  E  V  T  G  D  S  C  N  N  F  M  L
     -  N  F  H  I  T  L  T  *  K  *  Q  V  T  V  V  T  I  S  C  S
     -   T  F  T  S  L  *  L  R  S  D  R  *  Q  L  *  Q  F  H  A  H
8221 - ACCTATAATAAGGTTGAAAACATGACGCCCAGAGATCTTGGCGCATGTATTGACTGTAAT - 8280
     - T  Y  N  K  V  E  N  M  T  P  R  D  L  G  A  C  I  D  C  N
     -  P  I  I  R  L  K  T  *  R  P  E  I  L  A  H  V  L  T  V  M
     -   L  *  *  G  *  K  H  D  A  Q  R  S  W  R  M  Y  *  L  *  C
8281 - GCAAGGCATATCAATGCCCAAGTAGCAAAAAGTCACAATGTTTCACTCATCTGGAATGTA - 8340
     - A  R  H  I  N  A  Q  V  A  K  S  H  N  V  S  L  I  W  N  V
     -  Q  G  I  S  M  P  K  *  Q  K  V  T  M  F  H  S  S  G  M  *
     -   K  A  Y  Q  C  P  S  S  K  K  S  Q  C  F  T  H  L  E  C  K
8341 - AAAGACTACATGTCTTTATCTGAACAGCTGCGTAAACAAATTCGTACTGCTGCCAAGAAG - 8400
     - K  D  Y  M  S  L  S  E  Q  L  R  K  Q  I  R  T  A  A  K  K
     -  K  T  T  C  L  Y  L  N  S  C  V  N  K  F  V  L  L  P  R  R
     -   R  L  H  V  F  I  *  T  A  A  *  T  N  S  Y  C  C  Q  E  E
```

FIG. 11 Con't

```
8401 - AACAACATACCTTTTACACTAACTTGTGCTACAACTAGACAGGTTGTCAATGTCATAACT - 8460
     - N  N  I  P  F  T  L  T  C  A  T  T  R  Q  V  V  N  V  I  T
     - T  T  Y  L  L  H  *  L  V  L  Q  L  D  R  L  S  M  S  *  L
     - Q  H  T  F  Y  T  N  L  C  Y  N  *  T  G  C  Q  C  H  N  Y
8461 - ACTAAAATCTCACTCAAGGGTGGTAAGATTGTTAGTACTTGTTTTAAACTTATGCTTAAG - 8520
     - T  K  I  S  L  K  G  G  K  I  V  S  T  C  F  K  L  M  L  K
     - L  K  S  H  S  R  V  V  R  L  L  V  L  V  L  N  L  C  L  R
     - *  N  L  T  Q  G  W  *  D  C  *  Y  L  F  *  T  Y  A  *  G
8521 - GCCACATTATTGTGCGTTCTTGCTGCATTGGTTTGTTATATCGTTATGCCAGTACATACA - 8580
     - A  T  L  L  C  V  L  A  A  L  V  C  Y  I  V  M  P  V  H  T
     - P  H  Y  C  A  F  L  L  H  W  F  V  I  S  L  C  Q  Y  I  H
     - H  I  I  V  R  S  C  C  I  G  L  L  Y  R  Y  A  S  T  Y  I
8581 - TTGTCAATCCATGATGGTTACACAAATGAAATCATTGGTTACAAAGCCATTCAGGATGGT - 8640
     - L  S  I  H  D  G  Y  T  N  E  I  I  G  Y  K  A  I  Q  D  G
     - C  Q  S  M  M  V  T  Q  M  K  S  L  V  T  K  P  F  R  M  V
     - V  N  P  *  W  L  H  K  *  N  H  W  L  Q  S  H  S  G  W  C
8641 - GTCACTCGTGACATCATTTCTACTGATGATTGTTTTGCAAATAAACATGCTGGTTTTGAC - 8700
     - V  T  R  D  I  I  S  T  D  D  C  F  A  N  K  H  A  G  F  D
     - S  L  V  T  S  F  L  L  M  I  V  L  Q  I  N  M  L  V  L  T
     - H  S  *  H  H  F  Y  *  *  L  F  C  K  *  T  C  W  F  *  R
8701 - GCATGGTTTAGCCAGCGTGGTGGTTCATACAAAAATGACAAAAGCTGCCCTGTAGTAGCT - 8760
     - A  W  F  S  Q  R  G  G  S  Y  K  N  D  K  S  C  P  V  V  A
     - H  G  L  A  S  V  V  V  H  T  K  M  T  K  A  A  L  *  *  L
     - M  V  *  P  A  W  W  F  I  Q  K  *  Q  K  L  P  C  S  S  C
8761 - GCTATCATTACAAGAGAGATTGGTTTCATAGTGCCTGGCTTACCGGGTACTGTGCTGAGA - 8820
     - A  I  I  T  R  E  I  G  F  I  V  P  G  L  P  G  T  V  L  R
     - L  S  L  Q  E  R  L  V  S  *  C  L  A  Y  R  V  L  C  *  E
     - Y  H  Y  K  R  D  W  F  H  S  A  W  L  T  G  Y  C  A  E  S
8821 - GCAATCAATGGTGACTTCTTGCATTTTCTACCTCGTGTTTTTAGTGCTGTTGGCAACATT - 8880
     - A  I  N  G  D  F  L  H  F  L  P  R  V  F  S  A  V  G  N  I
     - Q  S  M  V  T  S  C  I  F  Y  L  V  F  L  V  L  L  A  T  F
     - N  Q  W  *  L  L  A  F  S  T  S  C  F  *  C  C  W  Q  H  L
8881 - TGCTACACACCTTCCAAACTCATTGAGTATAGTGATTTTGCTACCTCTGCTTGCGTTCTT - 8940
     - C  Y  T  P  S  K  L  I  E  Y  S  D  F  A  T  S  A  C  V  L
     - A  T  H  L  P  N  S  L  S  I  V  I  L  L  P  L  L  A  F  L
     - L  H  T  F  Q  T  H  *  V  *  *  F  C  Y  L  C  L  R  S  C
8941 - GCTGCTGAGTGTACAATTTTTAAGGATGCTATGGGCAAACCTGTGCCATATTGTTATGAC - 9000
     - A  A  E  C  T  I  F  K  D  A  M  G  K  P  V  P  Y  C  Y  D
     - L  L  S  V  Q  F  L  R  M  L  W  A  N  L  C  H  I  V  M  T
     - C  *  V  Y  N  F  *  G  C  Y  G  Q  T  C  A  I  L  L  *  H
9001 - ACTAATTTGCTAGAGGGTTCTATTTCTTATAGTGAGCTTCGTCCAGACACTCGTTATGTG - 9060
     - T  N  L  L  E  G  S  I  S  Y  S  E  L  R  P  D  T  R  Y  V
     - L  I  C  *  R  V  L  F  L  I  V  S  F  V  Q  T  L  V  M  C
     - *  F  A  R  G  F  Y  F  L  *  *  A  S  S  R  H  S  L  C  A
9061 - CTTATGGATGGTTCCATCATACAGTTTCCTAACACTTACCTGGAGGGTTCTGTTAGAGTA - 9120
     - L  M  D  G  S  I  I  Q  F  P  N  T  Y  L  E  G  S  V  R  V
     - L  W  M  V  P  S  Y  S  F  L  T  L  T  W  R  V  L  L  E  *
     - Y  G  W  F  H  H  T  V  S  *  H  L  P  G  G  F  C  *  S  S
9121 - GTAACAACTTTTGATGCTGAGTACTGTAGACATGGTACATGCGAAAGGTCAGAAGTAGGT - 9180
     - V  T  T  F  D  A  E  Y  C  R  H  G  T  C  E  R  S  E  V  G
     - *  Q  L  L  M  L  S  T  V  D  M  V  H  A  K  G  Q  K  *  V
     - N  N  F  *  C  *  V  L  *  T  W  Y  M  R  K  V  R  S  R  Y
9181 - ATTTGCCTATCTACCAGTGGTAGATGGGTTCTTAATAATGAGCATTACAGAGCTCTATCA - 9240
     - I  C  L  S  T  S  G  R  W  V  L  N  N  E  H  Y  R  A  L  S
     - F  A  Y  L  P  V  V  D  G  F  L  I  M  S  I  T  E  L  Y  Q
     - L  P  I  Y  Q  W  *  M  G  S  *  *  *  A  L  Q  S  S  I  R
```

FIG. 11 Con't

```
9241 - GGAGTTTTCTGTGGTGTTGATGCGATGAATCTCATAGCTAACATCTTTACTCCTCTTGTG - 9300
     - G  V  F  C  G  V  D  A  M  N  L  I  A  N  I  F  T  P  L  V
     - E  F  S  V  V  L  M  R  *  I  S  *  L  T  S  L  L  L  L  C
     - S  F  L  W  C  *  C  D  E  S  H  S  *  H  L  Y  S  S  C  A
9301 - CAACCTGTGGGTGCTTTAGATGTGTCTGCTTCAGTAGTGGCTGGTGGTATTATTGCCATA - 9360
     - Q  P  V  G  A  L  D  V  S  A  S  V  V  A  G  G  I  I  A  I
     - N  L  W  V  L  *  M  C  L  L  Q  *  W  L  V  V  L  L  P  Y
     - T  C  G  C  F  R  C  V  C  F  S  S  G  W  W  Y  Y  C  H  I
9361 - TTGGTGACTTGTGCTGCCTACTACTTTATGAAATTCAGACGTGTTTTTGGTGAGTACAAC - 9420
     - L  V  T  C  A  A  Y  Y  F  M  K  F  R  R  V  F  G  E  Y  N
     - W  *  L  V  L  P  T  T  L  *  N  S  D  V  F  L  V  S  T  T
     - G  D  L  C  C  L  L  L  Y  E  I  Q  T  C  F  W  *  V  Q  P
9421 - CATGTTGTTGCTGCTAATGCACTTTTGTTTTTGATGTCTTTCACTATACTCTGTCTGGTA - 9480
     - H  V  V  A  A  N  A  L  L  F  L  M  S  F  T  I  L  C  L  V
     - M  L  L  L  L  M  H  F  C  F  *  C  L  S  L  Y  S  V  W  Y
     - C  C  C  C  *  C  T  F  V  F  D  V  F  H  Y  T  L  S  G  T
9481 - CCAGCTTACAGCTTTCTGCCGGGAGTCTACTCAGTCTTTTACTTGTACTTGACATTCTAT - 9540
     - P  A  Y  S  F  L  P  G  V  Y  S  V  F  Y  L  Y  L  T  F  Y
     - Q  L  T  A  F  C  R  E  S  T  Q  S  F  T  C  T  *  H  S  I
     - S  L  Q  L  S  A  G  S  L  L  S  L  L  L  V  L  D  I  L  F
9541 - TTCACCAATGATGTTTCATTCTTGGCTCACCTTCAATGGTTTGCCATGTTTTCTCCTATT - 9600
     - F  T  N  D  V  S  F  L  A  H  L  Q  W  F  A  M  F  S  P  I
     - S  P  M  M  F  H  S  W  L  T  F  N  G  L  P  C  F  L  L  L
     - H  Q  *  C  F  I  L  G  S  P  S  M  V  C  H  V  F  S  Y  C
9601 - GTGCCTTTTTGGATAACAGCAATCTATGTATTCTGTATTTCTCTGAAGCACTGCCATTGG - 9660
     - V  P  F  W  I  T  A  I  Y  V  F  C  I  S  L  K  H  C  H  W
     - C  L  F  G  *  Q  Q  S  M  Y  S  V  F  L  *  S  T  A  I  G
     - A  F  L  D  N  S  N  L  C  I  L  Y  F  S  E  A  L  P  L  V
9661 - TTCTTTAACAACTATCTTAGGAAAAGAGTCATGTTTAATGGAGTTACATTTAGTACCTTC - 9720
     - F  F  N  N  Y  L  R  K  R  V  M  F  N  G  V  T  F  S  T  F
     - S  L  T  T  I  L  G  K  E  S  C  L  M  E  L  H  L  V  P  S
     - L  *  Q  L  S  *  E  K  S  H  V  *  W  S  Y  I  *  Y  L  R
9721 - GAGGAGGCTGCTTTGTGTACCTTTTTGCTCAACAAGGAAATGTACCTAAAATTGCGTAGC - 9780
     - E  E  A  A  L  C  T  F  L  L  N  K  E  M  Y  L  K  L  R  S
     - R  R  L  L  C  V  P  F  C  S  T  R  K  C  T  *  N  C  V  A
     - G  G  C  F  V  Y  L  F  A  Q  Q  G  N  V  P  K  I  A  *  R
9781 - GAGACACTGTTGCCACTTACACAGTATAACAGGTATCTTGCTCTATATAACAAGTACAAG - 9840
     - E  T  L  L  P  L  T  Q  Y  N  R  Y  L  A  L  Y  N  K  Y  K
     - R  H  C  C  H  L  H  S  I  T  G  I  L  L  Y  I  T  S  T  S
     - D  T  V  A  T  Y  T  V  *  Q  V  S  C  S  I  *  Q  V  Q  V
9841 - TATTTCAGTGGAGCCTTAGATACTACCAGCTATCGTGAAGCAGCTTGCTGCCACTTAGCA - 9900
     - Y  F  S  G  A  L  D  T  T  S  Y  R  E  A  A  C  C  H  L  A
     - I  S  V  E  P  *  I  L  P  A  I  V  K  Q  L  A  A  T  *  Q
     - F  Q  W  S  L  R  Y  Y  Q  L  S  *  S  S  L  L  P  L  S  K
9901 - AAGGCTCTAAATGACTTTAGCAACTCAGGTGCTGATGTTCTCTACCAACCACCACAGACA - 9960
     - K  A  L  N  D  F  S  N  S  G  A  D  V  L  Y  Q  P  P  Q  T
     - R  L  *  M  T  L  A  T  Q  V  L  M  F  S  T  N  H  H  R  H
     - G  S  K  *  L  *  Q  L  R  C  *  C  S  L  P  T  T  T  D  I
9961 - TCAATCACTTCTGCTGTTCTGCAGAGTGGTTTTAGGAAAATGGCATTCCCGTCAGGCAAA - 10020
     - S  I  T  S  A  V  L  Q  S  G  F  R  K  M  A  F  P  S  G  K
     - Q  S  L  L  L  F  C  R  V  V  L  G  K  W  H  S  R  Q  A  K
     - N  H  F  C  C  S  A  E  W  F  *  E  N  G  I  P  V  R  Q  S
10021 - GTTGAAGGGTGCATGGTACAAGTAACCTGTGGAACTACAACTCTTAATGGATTGTGGTTG - 10080
     - V  E  G  C  M  V  Q  V  T  C  G  T  T  T  L  N  G  L  W  L
     - L  K  G  A  W  Y  K  *  P  V  E  L  Q  L  L  M  D  C  G  W
     - *  R  V  H  G  T  S  N  L  W  N  Y  N  S  *  W  I  V  V  G
```

FIG. 11 Con't

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10081 - GATGACACAGTATACTGTCCAAGACATGTCATTTGCACAGCAGAAGACATGCTTAATCCT - 10140
      - D  D  T  V  Y  C  P  R  H  V  I  C  T  A  E  D  M  L  N  P
      - M  T  Q  Y  T  V  Q  D  M  S  F  A  Q  Q  K  T  C  L  I  L
      - *  H  S  I  L  S  K  T  C  H  L  H  S  R  R  H  A  *  S  *
10141 - AACTATGAAGATCTGCTCATTCGCAAATCCAACCATAGCTTTCTTGTTCAGGCTGGCAAT - 10200
      - N  Y  E  D  L  L  I  R  K  S  N  H  S  F  L  V  Q  A  G  N
      - T  M  K  I  C  S  F  A  N  P  T  I  A  F  L  F  R  L  A  M
      - L  *  R  S  A  H  S  Q  I  Q  P  *  L  S  C  S  G  W  Q  C
10201 - GTTCAACTTCGTGTTATTGGCCATTCTATGCAAAATTGTCTGCTTAGGCTTAAAGTTGAT - 10260
      - V  Q  L  R  V  I  G  H  S  M  Q  N  C  L  L  R  L  K  V  D
      - F  N  F  V  L  L  A  I  L  C  K  I  V  C  L  G  L  K  L  I
      - S  T  S  C  Y  W  P  F  Y  A  K  L  S  A  *  A  *  S  *  Y
10261 - ACTTCTAACCCTAAGACACCCAAGTATAAATTTGTCCGTATCCAACCTGGTCAAACATTT - 10320
      - T  S  N  P  K  T  P  K  Y  K  F  V  R  I  Q  P  G  Q  T  F
      - L  L  T  L  R  H  P  S  I  N  L  S  V  S  N  L  V  K  H  F
      - F  *  P  *  D  T  Q  V  *  I  C  P  Y  P  T  W  S  N  I  F
10321 - TCAGTTCTAGCATGCTACAATGGTTCACCATCTGGTGTTTATCAGTGTGCCATGAGACCT - 10380
      - S  V  L  A  C  Y  N  G  S  P  S  G  V  Y  Q  C  A  M  R  P
      - Q  F  *  H  A  T  M  V  H  H  L  V  F  I  S  V  P  *  D  L
      - S  S  S  M  L  Q  W  F  T  I  W  C  L  S  V  C  H  E  T  *
10381 - AATCATACCATTAAAGGTTCTTTCCTTAATGGATCATGTGGTAGTGTTGGTTTTAACATT - 10440
      - N  H  T  I  K  G  S  F  L  N  G  S  C  G  S  V  G  F  N  I
      - I  I  P  L  K  V  L  S  L  M  D  H  V  V  V  L  V  L  T  L
      - S  Y  H  *  R  F  F  P  *  W  I  M  W  *  C  W  F  *  H  *
10441 - GATTATGATTGCGTGTCTTTCTGCTATATGCATCATATGGAGCTTCCAACAGGAGTACAC - 10500
      - D  Y  D  C  V  S  F  C  Y  M  H  H  M  E  L  P  T  G  V  H
      - I  M  I  A  C  L  S  A  I  C  I  I  W  S  F  Q  Q  E  Y  T
      - L  *  L  R  V  F  L  L  Y  A  S  Y  G  A  S  N  R  S  T  R
10501 - GCTGGTACTGACTTAGAAGGTAAATTCTATGGTCCATTTGTTGACAGACAAACTGCACAG - 10560
      - A  G  T  D  L  E  G  K  F  Y  G  P  F  V  D  R  Q  T  A  Q
      - L  V  L  T  *  K  V  N  S  M  V  H  L  L  T  D  K  L  H  R
      - W  Y  *  L  R  R  *  I  L  W  S  I  C  *  Q  T  N  C  T  G
10561 - GCTGCAGGTACAGACACAACCATAACATTAAATGTTTTGGCATGGCTGTATGCTGCTGTT - 10620
      - A  A  G  T  D  T  T  I  T  L  N  V  L  A  W  L  Y  A  A  V
      - L  Q  V  Q  T  Q  P  *  H  *  M  F  W  H  G  C  M  L  L
      - C  R  Y  R  H  N  H  N  I  K  C  F  G  M  A  V  C  C  C  Y
10621 - ATCAATGGTGATAGGTGGTTTCTTAATAGATTCACCACTACTTTGAATGACTTTAACCTT - 10680
      - I  N  G  D  R  W  F  L  N  R  F  T  T  T  L  N  D  F  N  L
      - S  M  V  I  G  G  F  L  I  D  S  P  L  L  *  M  T  L  T  L
      - Q  W  *  *  V  V  S  *  *  I  H  H  Y  F  E  *  L  *  P  C
10681 - GTGGCAATGAAGTACAACTATGAACCTTTGACACAAGATCATGTTGACATATTGGGACCT - 10740
      - V  A  M  K  Y  N  Y  E  P  L  T  Q  D  H  V  D  I  L  G  P
      - W  Q  *  S  T  T  M  N  L  *  H  K  I  M  L  T  Y  W  D  L
      - G  N  E  V  Q  L  *  T  F  D  T  R  S  C  *  H  I  G  T  S
10741 - CTTTCTGCTCAAACAGGAATTGCCGTCTTAGATATGTGTGCTGCTTTGAAAGAGCTGCTG - 10800
      - L  S  A  Q  T  G  I  A  V  L  D  M  C  A  A  L  K  E  L  L
      - F  L  L  K  Q  E  L  P  S  *  I  C  V  L  L  *  K  S  C  C
      - F  C  S  N  R  N  C  R  L  R  Y  V  C  C  F  E  R  A  A  A
10801 - CAGAATGGTATGAATGGTCGTACTATCCTTGGTAGCACTATTTTAGAAGATGAGTTTACA - 10860
      - Q  N  G  M  N  G  R  T  I  L  G  S  T  I  L  E  D  E  F  T
      - R  M  V  *  M  V  V  L  S  L  V  A  L  F  *  K  M  S  L  H
      - E  W  Y  E  W  S  Y  Y  P  W  *  H  Y  F  R  R  *  V  Y  T
10861 - CCATTTGATGTTGTTAGACAATGCTCTGGTGTTACCTTCCAAGGTAAGTTCAAGAAAATT - 10920
      - P  F  D  V  V  R  Q  C  S  G  V  T  F  Q  G  K  F  K  K  I
      - H  L  M  L  L  D  N  A  L  V  L  P  S  K  V  S  S  R  K  L
      - I  *  C  C  *  T  M  L  W  C  Y  L  P  R  *  V  Q  E  N  C
```

FIG. 11 Con't

```
10921 - GTTAAGGGCACTCATCATTGGATGCTTTTAACTTTCTTGACATCACTATTGATTCTTGTT - 10980
       - V  K  G  T  H  H  W  M  L  L  T  F  L  T  S  L  L  I  L  V
       - L  R  A  L  I  I  G  C  F  *  L  S  *  H  H  Y  *  F  L  F
       - *  G  H  S  S  L  D  A  F  N  F  L  D  I  T  I  D  S  C  S
10981 - CAAAGTACACAGTGGTCACTGTTTTTCTTTGTTACGAGAATGCTTTCTTGCCATTTACT - 11040
       - Q  S  T  Q  W  S  L  F  F  F  V  Y  E  N  A  F  L  P  F  T
       - K  V  H  S  G  H  C  F  S  L  F  T  R  M  L  S  C  H  L  L
       - K  Y  T  V  V  T  V  F  L  C  L  R  E  C  F  L  A  I  Y  S
11041 - CTTGGTATTATGGCAATTGCTGCATGTGCTATGCTGCTTGTTAAGCATAAGCACGCATTC - 11100
       - L  G  I  M  A  I  A  A  C  A  M  L  L  V  K  H  K  H  A  F
       - L  V  L  W  Q  L  L  H  V  L  C  C  L  L  S  I  S  T  H  S
       - W  Y  Y  G  N  C  C  M  C  Y  A  A  C  *  A  *  A  R  I  L
11101 - TTGTGCTTGTTTCTGTTACCTTCTCTTGCAACAGTTGCTTACTTTAATATGGTCTACATG - 11160
       - L  C  L  F  L  L  P  S  L  A  T  V  A  Y  F  N  M  V  Y  M
       - C  A  C  F  C  Y  L  L  L  Q  Q  L  L  T  L  I  W  S  T  C
       - V  L  V  S  V  T  F  S  C  N  S  C  L  L  *  Y  G  L  H  A
11161 - CCTGCTAGCTGGGTGATGCGTATCATGACATGGCTTGAATTGGCTGACACTAGCTTGTCT - 11220
       - P  A  S  W  V  M  R  I  M  T  W  L  E  L  A  D  T  S  L  S
       - L  L  A  G  *  C  V  S  *  H  G  L  N  W  L  T  L  A  C  L
       - C  *  L  G  D  A  Y  H  D  M  A  *  I  G  *  H  *  L  V  W
11221 - GGTTATAGGCTTAAGGATTGTGTTATGTATGCTTCAGCTTTAGTTTTGCTTATTCTCATG - 11280
       - G  Y  R  L  K  D  C  V  M  Y  A  S  A  L  V  L  L  I  L  M
       - V  I  G  L  R  I  V  L  C  M  L  Q  L  *  F  C  L  F  S  *
       - L  *  A  *  G  L  C  Y  V  C  F  S  F  S  F  A  Y  S  H  D
11281 - ACAGCTCGCACTGTTTATGATGATGCTGCTAGACGTGTTTGGACACTGATGAATGTCATT - 11340
       - T  A  R  T  V  Y  D  D  A  A  R  R  V  W  T  L  M  N  V  I
       - Q  L  A  L  F  M  M  M  L  L  D  V  F  G  H  *  *  M  S  L
       - S  S  H  C  L  *  *  C  C  *  T  C  L  D  T  D  E  C  H  Y
11341 - ACACTTGTTTACAAAGTCTACTATGGTAATGCTTTAGATCAAGCTATTTCCATGTGGGCC - 11400
       - T  L  V  Y  K  V  Y  Y  G  N  A  L  D  Q  A  I  S  M  W  A
       - H  L  F  T  K  S  T  M  V  M  L  *  I  K  L  F  P  C  G  P
       - T  C  L  Q  S  L  L  W  *  C  F  R  S  S  Y  F  H  V  G  L
11401 - TTAGTTATTTCTGTAACCTCTAACTATTCTGGTGTCGTTACGACTATCATGTTTTTAGCT - 11460
       - L  V  I  S  V  T  S  N  Y  S  G  V  V  T  T  I  M  F  L  A
       - *  L  F  L  *  P  L  T  I  L  V  S  L  R  L  S  C  F  *  L
       - S  Y  F  C  N  L  *  L  F  W  C  R  Y  D  Y  H  V  F  S  *
11461 - AGAGCTATAGTGTTTGTGTGTGTTGAGTATTACCCATTGTTATTTATTACTGGCAACACC - 11520
       - R  A  I  V  F  V  C  V  E  Y  Y  P  L  L  F  I  T  G  N  T
       - E  L  *  C  L  C  V  L  S  I  T  H  C  Y  L  L  L  A  T  P
       - S  Y  S  V  C  V  C  *  V  L  P  I  V  I  Y  Y  W  Q  H  L
11521 - TTACAGTGTATCATGCTTGTTTATTGTTTCTTAGGCTATTGTTGCTGCTGCTACTTTGGC - 11580
       - L  Q  C  I  M  L  V  Y  C  F  L  G  Y  C  C  C  C  Y  F  G
       - Y  S  V  S  C  L  F  I  V  S  *  A  I  V  A  A  A  T  L  A
       - T  V  Y  H  A  C  L  L  F  L  R  L  L  L  L  L  L  L  W  P
11581 - CTTTTCTGTTTACTCAACCGTTACTTCAGGCTTACTCTTGGTGTTTATGACTACTTGGTC - 11640
       - L  F  C  L  L  N  R  Y  F  R  L  T  L  G  V  Y  D  Y  L  V
       - F  S  V  Y  S  T  V  T  S  G  L  L  L  V  F  M  T  T  W  S
       - F  L  F  T  Q  P  L  L  Q  A  Y  S  W  C  L  *  L  L  G  L
11641 - TCTACACAAGAATTTAGGTATATGAACTCCCAGGGGCTTTTGCCTCCTAAGAGTAGTATT - 11700
       - S  T  Q  E  F  R  Y  M  N  S  Q  G  L  L  P  P  K  S  S  I
       - L  H  K  N  L  G  I  *  T  P  R  G  F  C  L  L  R  V  V  L
       - Y  T  R  I  *  V  Y  E  L  P  G  A  F  A  S  *  E  *  Y  *
11701 - GATGCTTTCAAGCTTAACATTAAGTTGTTGGGTATTGGAGGTAAACCATGTATCAAGGTT - 11760
       - D  A  F  K  L  N  I  K  L  L  G  I  G  G  K  P  C  I  K  V
       - M  L  S  S  L  T  L  S  C  W  V  L  E  V  N  H  V  S  R  L
       - C  F  Q  A  *  H  *  V  V  G  Y  W  R  *  T  M  Y  Q  G  C
```

FIG. 11 Con't

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11761 - GCTACTGTACAGTCTAAAATGTCTGACGTAAAGTGCACATCTGTGGTACTGCTCTCGGTT - 11820
       - A  T  V  Q  S  K  M  S  D  V  K  C  T  S  V  V  L  L  S  V
       -  L  L  Y  S  L  K  C  L  T  *  S  A  H  L  W  Y  C  S  R  F
       -   Y  C  T  V  *  N  V  *  R  K  V  H  I  C  G  T  A  L  G  S
11821 - CTTCAACAACTTAGAGTAGAGTCATCTTCTAAATTGTGGGCACAATGTGTACAACTCCAC - 11880
       - L  Q  Q  L  R  V  E  S  S  S  K  L  W  A  Q  C  V  Q  L  H
       -  F  N  N  L  E  *  S  H  L  L  N  C  G  H  N  V  Y  N  S  T
       -   S  T  T  *  S  R  V  I  F  *  I  V  G  T  M  C  T  T  P  Q
11881 - AATGATATTCTTCTTGCAAAAGACACAACTGAAGCTTTCGAGAAGATGGTTTCTCTTTTG - 11940
       - N  D  I  L  L  A  K  D  T  T  E  A  F  E  K  M  V  S  L  L
       -  M  I  F  F  L  Q  K  T  Q  L  K  L  S  R  R  W  F  L  F  C
       -   *  Y  S  S  C  K  R  H  N  *  S  F  R  E  D  G  F  S  F  V
11941 - TCTGTTTTGCTATCCATGCAGGGTGCTGTAGACATTAATAGGTTGTGCGAGGAAATGCTC - 12000
       - S  V  L  L  S  M  Q  G  A  V  D  I  N  R  L  C  E  E  M  L
       -  L  F  C  Y  P  C  R  V  L  *  T  L  I  G  C  A  R  K  C  S
       -   C  F  A  I  H  A  G  C  C  R  H  *  *  V  V  R  G  N  A  R
12001 - GATAACCGTGCTACTCTTCAGGCTATTGCTTCAGAATTTAGTTCTTTACCATCATATGCC - 12060
       - D  N  R  A  T  L  Q  A  I  A  S  E  F  S  S  L  P  S  Y  A
       -  I  T  V  L  L  F  R  L  L  L  Q  N  L  V  L  Y  H  M  P
       -   *  P  C  Y  S  S  G  Y  C  F  R  I  *  F  F  T  I  I  C  R
12061 - GCTTATGCCACTGCCCAGGAGGCCTATGAGCAGGCTGTAGCTAATGGTGATTCTGAAGTC - 12120
       - A  Y  A  T  A  Q  E  A  Y  E  Q  A  V  A  N  G  D  S  E  V
       -  L  M  P  L  P  R  R  P  M  S  R  L  *  L  M  V  I  L  K  S
       -   L  C  H  C  P  G  G  L  *  A  G  C  S  *  W  *  F  *  S  R
12121 - GTTCTCAAAAAGTTAAAGAAATCTTTGAATGTGGCTAAATCTGAGTTTGACCGTGATGCT - 12180
       - V  L  K  K  L  K  K  S  L  N  V  A  K  S  E  F  D  R  D  A
       -  F  S  K  S  *  R  N  L  *  M  W  L  N  L  S  L  T  V  M  L
       -   S  Q  K  V  K  E  I  F  E  C  G  *  I  *  V  *  P  *  C  C
12181 - GCCATGCAACGCAAGTTGGAAAAGATGGCAGATCAGGCTATGACCCAAATGTACAAACAG - 12240
       - A  M  Q  R  K  L  E  K  M  A  D  Q  A  M  T  Q  M  Y  K  Q
       -  P  C  N  A  S  W  K  R  W  Q  I  R  L  *  P  K  C  T  N  R
       -   H  A  T  Q  V  G  K  D  G  R  S  G  Y  D  P  N  V  Q  T  G
12241 - GCAAGATCTGAGGACAAGAGGGCAAAAGTAACTAGTGCTATGCAAACAATGCTCTTCACT - 12300
       - A  R  S  E  D  K  R  A  K  V  T  S  A  M  Q  T  M  L  F  T
       -  Q  D  L  R  T  R  G  Q  K  *  L  V  L  C  K  Q  C  S  S  L
       -   K  I  *  G  Q  E  G  K  S  N  *  C  Y  A  N  N  A  L  H  Y
12301 - ATGCTTAGGAAGCTTGATAATGATGCACTTAACAACATTATCAACAATGCGCGTGATGGT - 12360
       - M  L  R  K  L  D  N  D  A  L  N  N  I  I  N  N  A  R  D  G
       -  C  L  G  S  L  I  M  M  H  L  T  T  L  S  T  M  R  V  M  V
       -   A  *  E  A  *  *  *  C  T  *  Q  H  Y  Q  Q  C  A  *  W  L
12361 - TGTGTTCCACTCAACATCATACCATTGACTACAGCAGCCAAACTCATGGTTGTTGTCCCT - 12420
       - C  V  P  L  N  I  I  P  L  T  T  A  A  K  L  M  V  V  V  P
       -  V  F  H  S  T  S  Y  H  *  L  Q  Q  P  N  S  W  L  L  S  L
       -   C  S  T  Q  H  H  T  I  D  Y  S  S  Q  T  H  G  C  C  P  *
12421 - GATTATGGTACCTACAAGAACACTTGTGATGGTAACACCTTTACATATGCATCTGCACTC - 12480
       - D  Y  G  T  Y  K  N  T  C  D  G  N  T  F  T  Y  A  S  A  L
       -  I  M  V  P  T  R  T  L  V  M  V  T  P  L  H  M  H  L  H  S
       -   L  W  Y  L  Q  E  H  L  *  W  *  H  L  Y  I  C  I  C  T  L
12481 - TGGGAAATCCAGCAAGTTGTTGATGCGGATAGCAAGATTGTTCAACTTAGTGAAATTAAC - 12540
       - W  E  I  Q  Q  V  V  D  A  D  S  K  I  V  Q  L  S  E  I  N
       -  G  K  S  S  K  L  L  M  R  I  A  R  L  F  N  L  V  K  L  T
       -   G  N  P  A  S  C  *  C  G  *  Q  D  C  S  T  *  *  N  *  H
12541 - ATGGACAATTCACCAAATTTGGCTTGGCCTCTTATTGTTACAGCTCTAAGAGCCAACTCA - 12600
       - M  D  N  S  P  N  L  A  W  P  L  I  V  T  A  L  R  A  N  S
       -  W  T  I  H  Q  I  W  L  G  L  L  L  L  Q  L  *  E  P  T  Q
       -   G  Q  F  T  K  F  G  L  A  S  Y  C  Y  S  S  K  S  Q  L  S
```

FIG. 11 Con't

```
12601 - GCTGTTAAACTACAGAATAATGAACTGAGTCCAGTAGCACTACGACAGATGTCCTGTGCG - 12660
       - A  V  K  L  Q  N  N  E  L  S  P  V  A  L  R  Q  M  S  C  A
       - L  L  N  Y  R  I  M  N  *  V  Q  *  H  Y  D  R  C  P  V  R
       - C  *  T  T  E  *  *  T  E  S  S  S  T  T  T  D  V  L  C  G
12661 - GCTGGTACCACACAAACAGCTTGTACTGATGACAATGCACTTGCCTACTATAACAATTCG - 12720
       - A  G  T  T  Q  T  A  C  T  D  D  N  A  L  A  Y  Y  N  N  S
       - L  V  P  H  K  Q  L  V  L  M  T  M  H  L  P  T  I  T  I  R
       - W  Y  H  T  N  S  L  Y  *  *  Q  C  T  C  L  L  *  Q  F  E
12721 - AAGGGAGGTAGGTTTGTGCTGGCATTACTATCAGACCACCAAGATCTCAAATGGGCTAGA - 12780
       - K  G  G  R  F  V  L  A  L  L  S  D  H  Q  D  L  K  W  A  R
       - R  E  V  G  L  C  W  H  Y  Y  Q  T  T  K  I  S  N  G  L  D
       - G  R  *  V  C  A  G  I  T  I  R  P  P  R  S  Q  M  G  *  I
12781 - TTCCCTAAGAGTGATGGTACAGGTACAATTTACACAGAACTGGAACCACCTTGTAGGTTT - 12840
       - F  P  K  S  D  G  T  G  T  I  Y  T  E  L  E  P  P  C  R  F
       - S  L  R  V  M  V  Q  V  Q  F  T  Q  N  W  N  H  L  V  G  L
       - P  *  E  *  W  Y  R  Y  N  L  H  R  T  G  T  T  L  *  V  C
12841 - GTTACAGACACACCAAAAGGGCCTAAAGTGAAATACTTGTACTTCATCAAAGGCTTAAAC - 12900
       - V  T  D  T  P  K  G  P  K  V  K  Y  L  Y  F  I  K  G  L  N
       - L  Q  T  H  Q  K  G  L  K  *  N  T  C  T  S  S  K  A  *  T
       - Y  R  H  T  K  R  A  *  S  E  I  L  V  L  H  Q  R  L  K  Q
12901 - AACCTAAATAGAGGTATGGTGCTGGGCAGTTTAGCTGCTACAGTACGTCTTCAGGCTGGA - 12960
       - N  L  N  R  G  M  V  L  G  S  L  A  A  T  V  R  L  Q  A  G
       - T  *  I  E  V  W  C  W  A  V  *  L  L  Q  Y  V  F  R  L  E
       - P  K  *  R  Y  G  A  G  Q  F  S  C  Y  S  T  S  S  G  W  K
12961 - AATGCTACAGAAGTACCTGCCAATTCAACTGTGCTTTCCTTCTGTGCTTTTGCAGTAGAC - 13020
       - N  A  T  E  V  P  A  N  S  T  V  L  S  F  C  A  F  A  V  D
       - M  L  Q  K  Y  L  P  I  Q  L  C  F  P  S  V  L  L  Q  *  T
       - C  Y  R  S  T  C  Q  F  N  C  A  F  L  L  C  F  C  S  R  P
13021 - CCTGCTAAAGCATATAAGGATTACCTAGCAAGTGGAGGACAACCAATCACCAACTGTGTG - 13080
       - P  A  K  A  Y  K  D  Y  L  A  S  G  G  Q  P  I  T  N  C  V
       - L  L  K  H  I  R  I  T  *  Q  V  E  D  N  Q  S  P  T  V  *
       - C  *  S  I  *  G  L  P  S  K  W  R  T  T  N  H  Q  L  C  E
13081 - AAGATGTTGTGTACACACACTGGTACAGGACAGGCAATTACTGTAACACCAGAAGCTAAC - 13140
       - K  M  L  C  T  H  T  G  T  G  Q  A  I  T  V  T  P  E  A  N
       - R  C  C  V  H  T  L  V  Q  D  R  Q  L  L  *  H  Q  K  L  T
       - D  V  V  Y  T  H  W  Y  R  T  G  N  Y  C  N  T  R  S  *  H
13141 - ATGGACCAAGAGTCCTTTGGTGGTGCTTCATGTTGTCTGTATTGTAGATGCCACATTGAC - 13200
       - M  D  Q  E  S  F  G  G  A  S  C  C  L  Y  C  R  C  H  I  D
       - W  T  K  S  P  L  V  V  L  H  V  V  C  I  V  D  A  T  L  T
       - G  P  R  V  L  W  W  C  F  M  L  S  V  L  *  M  P  H  *  P
13201 - CATCCAAATCCTAAAGGATTCTGTGACTTGAAAGGTAAGTACGTCCAAATACCTACCACT - 13260
       - H  P  N  P  K  G  F  C  D  L  K  G  K  Y  V  Q  I  P  T  T
       - I  Q  I  L  K  D  S  V  T  *  K  V  S  T  S  K  Y  L  P  L
       - S  K  S  *  R  I  L  *  L  E  R  *  V  R  P  N  T  Y  H  L
13261 - TGTGCTAATGACCCAGTGGGTTTTACACTTAGAAACACAGTCTGTACCGTCTGCGGAATG - 13320
       - C  A  N  D  P  V  G  F  T  L  R  N  T  V  C  T  V  C  G  M
       - V  L  M  T  Q  W  V  L  H  L  E  T  Q  S  V  P  S  A  E  C
       - C  *  *  P  S  G  F  Y  T  *  K  H  S  L  Y  R  L  R  N  V
13321 - TGGAAAGGTTATGGCTGTAGTTGTGACCAACTCCGCGAACCCTTGATGCAGTCTGCGGAT - 13380
       - W  K  G  Y  G  C  S  C  D  Q  L  R  E  P  L  M  Q  S  A  D
       - G  K  V  M  A  V  V  V  T  N  S  A  N  P  *  C  S  L  R  M
       - E  R  L  W  L  *  L  *  P  T  P  R  T  L  D  A  V  C  G  C
13381 - GCATCAACGTTTTTAAACGGGTTTGCGGTGTAAGTGCAGCCCGTCTTACACCGTGCGGCA - 13440
       - A  S  T  F  L  N  G  F  A  V  *  V  Q  P  V  L  H  R  A  A
       - H  Q  R  F  *  T  G  L  R  C  K  C  S  P  S  Y  T  V  R  H
       - I  N  V  F  K  R  V  C  G  V  S  A  A  R  L  T  P  C  G  T
```

FIG. 11 Con't

```
13441 - CAGGCACTAGTACTGATGTCGTCTACAGGGCTTTTGATATTTACAACGAAAAAAGTGCTG - 13500
       - Q  A  L  V  L  M  S  S  T  G  L  L  I  F  T  T  K  K  V  L
       - R  H  *  Y  *  C  R  L  Q  G  F  *  Y  L  Q  R  K  K  C  W
       -  G  T  S  T  D  V  V  Y  R  A  F  D  I  Y  N  E  K  S  A  G
13501 - GTTTTGCAAAGTTCCTAAAAACTAATTGCTGTCGCTTCCAGGAGAAGGATGAGGAAGGCA - 13560
       - V  L  Q  S  S  *  K  L  I  A  V  A  S  R  R  R  M  R  K  A
       - F  C  K  V  P  K  N  *  L  L  S  L  P  G  E  G  *  G  R  Q
       -  F  A  K  F  L  K  T  N  C  C  R  F  Q  E  K  D  E  E  G  N
13561 - ATTTATTAGACTCTTACTTTGTAGTTAAGAGGCATACTATGTCTAACTACCAACATGAAG - 13620
       - I  Y  *  T  L  T  L  *  L  R  G  I  L  C  L  T  T  N  M  K
       - F  I  R  L  L  L  C  S  *  E  A  Y  Y  V  *  L  P  T  *  R
       -  L  L  D  S  Y  F  V  V  K  R  H  T  M  S  N  Y  Q  H  E  E
13621 - AGACTATTTATAACTTGGTTAAAGATTGTCCAGCGGTTGCTGTCCATGACTTTTTCAAGT - 13680
       - R  L  F  I  T  W  L  K  I  V  Q  R  L  L  S  M  T  F  S  S
       - D  Y  L  *  L  G  *  R  L  S  S  G  C  C  P  *  L  F  Q  V
       -  T  I  Y  N  L  V  K  D  C  P  A  V  A  V  H  D  F  F  K  F
13681 - TTAGAGTAGATGGTGACATGGTACCACATATATCACGTCAGCGTCTAACTAAATACACAA - 13740
       - L  E  *  M  V  T  W  Y  H  I  Y  H  V  S  V  *  L  N  T  Q
       - *  S  R  W  *  H  G  T  T  Y  I  T  S  A  S  N  *  I  H  N
       -  R  V  D  G  D  M  V  P  H  I  S  R  Q  R  L  T  K  Y  T  M
13741 - TGGCTGATTTAGTCTATGCTCTACGTCATTTTGATGAGGGTAATTGTGATACATTAAAAG - 13800
       - W  L  I  *  S  M  L  Y  V  I  L  M  R  V  I  V  I  H  *  K
       - G  *  F  S  L  C  S  T  S  F  *  *  G  *  L  *  Y  I  K  R
       -  A  D  L  V  Y  A  L  R  H  F  D  E  G  N  C  D  T  L  K  E
13801 - AAATACTCGTCACATACAATTGCTGTGATGATGATTATTTCAATAAGAAGGATTGGTATG - 13860
       - K  Y  S  S  H  T  I  A  V  M  M  I  I  S  I  R  R  I  G  M
       - N  T  R  H  I  Q  L  L  *  *  *  L  F  Q  *  E  G  L  V  *
       -  I  L  V  T  Y  N  C  C  D  D  D  Y  F  N  K  K  D  W  Y  D
13861 - ACTTCGTAGAGAATCCTGACATCTTACGCGTATATGCTAACTTAGGTGAGCGTGTACGCC - 13920
       - T  S  *  R  I  L  T  S  Y  A  Y  M  L  T  *  V  S  V  Y  A
       - L  R  R  E  S  *  H  L  T  R  I  C  *  L  R  *  A  C  T  P
       -  F  V  E  N  P  D  I  L  R  V  Y  A  N  L  G  E  R  V  R  Q
13921 - AATCATTATTAAAGACTGTACAATTCTGCGATGCTATGCGTGATGCAGGCATTGTAGGCG - 13980
       - N  H  Y  *  R  L  Y  N  S  A  M  L  C  V  M  Q  A  L  *  A
       - I  I  I  K  D  C  T  I  L  R  C  Y  A  *  C  R  H  C  R  R
       -  S  L  L  K  T  V  Q  F  C  D  A  M  R  D  A  G  I  V  G  V
13981 - TACTGACATTAGATAATCAGGATCTTAATGGGAACTGGTACGATTTCGGTGATTTCGTAC - 14040
       - Y  *  H  *  I  I  R  I  L  M  G  T  G  T  I  S  V  I  S  Y
       - T  D  I  R  *  S  G  S  *  W  E  L  V  R  F  R  *  F  R  T
       -  L  T  L  D  N  Q  D  L  N  G  N  W  Y  D  F  G  D  F  V  Q
14041 - AAGTAGCACCAGGCTGCGGAGTTCCTATTGTGGATTCATATTACTCATTGCTGATGCCCA - 14100
       - K  *  H  Q  A  A  E  F  L  L  W  I  H  I  T  H  C  *  C  P
       - S  S  T  R  L  R  S  S  Y  C  G  F  I  L  L  I  A  D  A  H
       -  V  A  P  G  C  G  V  P  I  V  D  S  Y  Y  S  L  L  M  P  I
14101 - TCCTCACTTTGACTAGGGCATTGGCTGCTGAGTCCCATATGGATGCTGATCTCGCAAAAC - 14160
       - S  S  L  *  L  G  H  W  L  L  S  P  I  W  M  L  I  S  Q  N
       - P  H  F  D  *  G  I  G  C  *  V  P  Y  G  C  *  S  R  K  T
       -  L  T  L  T  R  A  L  A  A  E  S  H  M  D  A  D  L  A  K  P
14161 - CACTTATTAAGTGGGATTTGCTGAAATATGATTTTACGGAAGAGAGACTTTGTCTCTTCG - 14220
       - H  L  L  S  G  I  C  *  N  M  I  L  R  K  R  D  F  V  S  S
       - T  Y  *  V  G  F  A  E  I  *  F  Y  G  R  E  T  L  S  L  R
       -  L  I  K  W  D  L  L  K  Y  D  F  T  E  E  R  L  C  L  F  D
14221 - ACCGTTATTTTAAATATTGGGACCAGACATACCATCCCAATTGTATTAACTGTTTGGATG - 14280
       - T  V  I  L  N  I  G  T  R  H  T  I  P  I  V  L  T  V  W  M
       - P  L  F  *  I  L  G  P  D  I  P  S  Q  L  Y  *  L  F  G  *
       -  R  Y  F  K  Y  W  D  Q  T  Y  H  P  N  C  I  N  C  L  D  D
```

FIG. 11 Con't

```
14281 - ATAGGTGTATCCTTCATTGTGCAAACTTTAATGTGTTATTTTCTACTGTGTTTCCACCTA - 14340
      - I  G  V  S  F  I  V  Q  T  L  M  C  Y  F  L  L  C  F  H  L
      - *  V  Y  P  S  L  C  K  L  *  C  V  I  F  Y  C  V  S  T  Y
      - R  C  I  L  H  C  A  N  F  N  V  L  F  S  T  V  F  P  P  T
14341 - CAAGTTTTGGACCACTAGTAAGAAAAATATTTGTAGATGGTGTTCCTTTTGTTGTTTCAA - 14400
      - Q  V  L  D  H  *  *  E  K  Y  L  *  M  V  F  L  L  L  F  Q
      - K  F  W  T  T  S  K  K  N  I  C  R  W  C  S  F  C  C  F  N
      - S  F  G  P  L  V  R  K  I  F  V  D  G  V  P  F  V  V  S  T
14401 - CTGGATACCATTTTCGTGAGTTAGGAGTCGTACATAATCAGGATGTAAACTTACATAGCT - 14460
      - L  D  T  I  F  V  S  *  E  S  Y  I  I  R  M  *  T  Y  I  A
      - W  I  P  F  S  *  V  R  S  R  T  *  S  G  C  K  L  T  *  L
      - G  Y  H  F  R  E  L  G  V  V  H  N  Q  D  V  N  L  H  S  S
14461 - CGCGTCTCAGTTTCAAGGAACTTTTAGTGTATGCTGCTGATCCAGCTATGCATGCAGCTT - 14520
      - R  V  S  V  S  R  N  F  *  C  M  L  L  I  Q  L  C  M  Q  L
      - A  S  Q  F  Q  G  T  F  S  V  C  C  *  S  S  Y  A  C  S  F
      - R  L  S  F  K  E  L  L  V  Y  A  A  D  P  A  M  H  A  A  S
14521 - CTGGCAATTTATTGCTAGATAAACGCACTACATGCTTTTCAGTAGCTGCACTAACAAACA - 14580
      - L  A  I  Y  C  *  I  N  A  L  H  A  F  Q  *  L  H  *  Q  T
      - W  Q  F  I  A  R  *  T  H  Y  M  L  F  S  S  C  T  N  K  Q
      - G  N  L  L  L  D  K  R  T  T  C  F  S  V  A  A  L  T  N  N
14581 - ATGTTGCTTTTCAAACTGTCAAACCCGGTAATTTTAATAAAGACTTTTATGACTTTGCTG - 14640
      - M  L  L  F  K  L  S  N  P  V  I  L  I  K  T  F  M  T  L  L
      - C  C  F  S  N  C  Q  T  R  *  F  *  *  R  L  L  *  L  C  C
      - V  A  F  Q  T  V  K  P  G  N  F  N  K  D  F  Y  D  F  A  V
14641 - TGTCTAAAGGTTTCTTTAAGGAAGGAAGTTCTGTTGAACTAAAACACTTCTTCTTTGCTC - 14700
      - C  L  K  V  S  L  R  K  E  V  L  L  N  *  N  T  S  S  L  L
      - V  *  R  F  L  *  G  R  K  F  C  *  T  K  T  L  L  L  C  S
      - S  K  G  F  F  K  E  G  S  S  V  E  L  K  H  F  F  F  A  Q
14701 - AGGATGGCAACGCTGCTATCAGTGATTATGACTATTATCGTTATAATCTGCCAACAATGT - 14760
      - R  M  A  T  L  L  S  V  I  M  T  I  I  V  I  I  C  Q  Q  C
      - G  W  Q  R  C  Y  Q  *  L  *  L  L  S  L  *  S  A  N  N  V
      - D  G  N  A  A  I  S  D  Y  D  Y  Y  R  Y  N  L  P  T  M  C
14761 - GTGATATCAGACAACTCCTATTCGTAGTTGAAGTTGTTGATAAATACTTTGATTGTTACG - 14820
      - V  I  S  D  N  S  Y  S  *  L  K  L  L  I  N  T  L  I  V  T
      - *  Y  Q  T  T  P  I  R  S  *  S  C  *  *  I  L  *  L  L  R
      - D  I  R  Q  L  L  F  V  V  E  V  V  D  K  Y  F  D  C  Y  D
14821 - ATGGTGGCTGTATTAATGCCAACCAAGTAATCGTTAACAATCTGGATAAATCAGCTGGTT - 14880
      - M  V  A  V  L  M  P  T  K  *  S  L  T  I  W  I  N  Q  L  V
      - W  W  L  Y  *  C  Q  P  S  N  R  *  Q  S  G  *  I  S  W  F
      - G  G  C  I  N  A  N  Q  V  I  V  N  N  L  D  K  S  A  G  F
14881 - TCCCATTTAATAAATGGGGTAAGGCTAGACTTTATTATGACTCAATGAGTTATGAGGATC - 14940
      - S  H  L  I  N  G  V  R  L  D  F  I  M  T  Q  *  V  M  R  I
      - P  I  *  *  M  G  *  G  *  T  L  L  *  L  N  E  L  *  G  S
      - P  F  N  K  W  G  K  A  R  L  Y  Y  D  S  M  S  Y  E  D  Q
14941 - AAGATGCACTTTTCGCGTATACTAAGCGTAATGTCATCCCTACTATAACTCAAATGAATC - 15000
      - K  M  H  F  S  R  I  L  S  V  M  S  S  L  L  *  L  K  *  I
      - R  C  T  F  R  V  Y  *  A  *  C  H  P  Y  Y  N  S  N  E  S
      - D  A  L  F  A  Y  T  K  R  N  V  I  P  T  I  T  Q  M  N  L
15001 - TTAAGTATGCCATTAGTGCAAAGAATAGAGCTCGCACCGTAGCTGGTGTCTCTATCTGTA - 15060
      - L  S  M  P  L  V  Q  R  I  E  L  A  P  *  L  V  S  L  S  V
      - *  V  C  H  *  C  K  E  *  S  S  H  R  S  W  C  L  Y  L  *
      - K  Y  A  I  S  A  K  N  R  A  R  T  V  A  G  V  S  I  C  S
15061 - GTACTATGACAAATAGACAGTTTCATCAGAAATTATTGAAGTCAATAGCCGCCACTAGAG - 15120
      - V  L  *  Q  I  D  S  F  I  R  N  Y  *  S  Q  *  P  P  L  E
      - Y  Y  D  K  *  T  V  S  S  E  I  I  E  V  N  S  R  H  *  R
      - T  M  T  N  R  Q  F  H  Q  K  L  L  K  S  I  A  A  T  R  G
```

FIG. 11 Con't

```
15121 - GAGCTACTGTGGTAATTGGAACAAGCAAGTTTTACGGTGGCTGGCATAATATGTTAAAAA - 15180
       - E  L  L  W  *  L  E  Q  A  S  F  T  V  A  G  I  I  C  *  K
       - S  Y  C  G  N  W  N  K  Q  V  L  R  W  L  A  *  Y  V  K  N
       -  A  T  V  V  I  G  T  S  K  F  Y  G  G  W  H  N  M  L  K  T
15181 - CTGTTTACAGTGATGTAGAAACTCCACACCTTATGGGTTGGGATTATCCAAAATGTGACA - 15240
       - L  F  T  V  M  *  K  L  H  T  L  W  V  G  I  I  Q  N  V  T
       - C  L  Q  *  C  R  N  S  T  P  Y  G  L  G  L  S  K  M  *  Q
       -  V  Y  S  D  V  E  T  P  H  L  M  G  W  D  Y  P  K  C  D  R
15241 - GAGCCATGCCTAACATGCTTAGGATAATGGCCTCTCTTGTTCTTGCTCGCAAACATAACA - 15300
       - E  P  C  L  T  C  L  G  *  W  P  L  L  F  L  L  A  N  I  T
       - S  H  A  *  H  A  *  D  N  G  L  S  C  S  C  S  Q  T  *  H
       -  A  M  P  N  M  L  R  I  M  A  S  L  V  L  A  R  K  H  N  T
15301 - CTTGCTGTAACTTATCACACCGTTTCTACAGGTTAGCTAACGAGTGTGCGCAAGTATTAA - 15360
       - L  A  V  T  Y  H  T  V  S  T  G  *  L  T  S  V  R  K  Y  *
       - L  L  *  L  I  T  P  F  L  Q  V  S  *  R  V  C  A  S  I  K
       -  C  C  N  L  S  H  R  F  Y  R  L  A  N  E  C  A  Q  V  L  S
15361 - GTGAGATGGTCATGTGTGGCGGCTCACTATATGTTAAACCAGGTGGAACATCATCCGGTG - 15420
       - V  R  W  S  C  V  A  A  H  Y  M  L  N  Q  V  E  H  H  P  V
       - *  D  G  H  V  W  R  L  T  I  C  *  T  R  W  N  I  I  R  *
       -  E  M  V  M  C  G  G  S  L  Y  V  K  P  G  G  T  S  S  G  D
15421 - ATGCTACAACTGCTTATGCTAATAGTGTCTTTAACATTTGTCAAGCTGTTACAGCCAATG - 15480
       - M  L  Q  L  L  M  L  I  V  S  L  T  F  V  K  L  L  Q  P  M
       - C  Y  N  C  L  C  *  *  C  L  *  H  L  S  S  C  Y  S  Q  C
       -  A  T  T  A  Y  A  N  S  V  F  N  I  C  Q  A  V  T  A  N  V
15481 - TAAATGCACTTCTTTCAACTGATGGTAATAAGATAGCTGACAAGTATGTCCGCAATCTAC - 15540
       - *  M  H  F  F  Q  L  M  V  I  R  *  L  T  S  M  S  A  I  Y
       - K  C  T  S  F  N  *  W  *  *  D  S  *  Q  V  C  P  Q  S  T
       -  N  A  L  L  S  T  D  G  N  K  I  A  D  K  Y  V  R  N  L  Q
15541 - AACACAGGCTCTATGAGTGTCTCTATAGAAATAGGGATGTTGATCATGAATTCGTGGATG - 15600
       - N  T  G  S  M  S  V  S  I  E  I  G  M  L  I  M  N  S  W  M
       - T  Q  A  L  *  V  S  L  *  K  *  G  C  *  S  *  I  R  G  *
       -  H  R  L  Y  E  C  L  Y  R  N  R  D  V  D  H  E  F  V  D  E
15601 - AGTTTTACGCTTACCTGCGTAAACATTTCTCCATGATGATTCTTTCTGATGATGCCGTTG - 15660
       - S  F  T  L  T  C  V  N  I  S  P  *  *  F  F  L  M  M  P  L
       - V  L  R  L  P  A  *  T  F  L  H  D  D  S  F  *  *  C  R  C
       -  F  Y  A  Y  L  R  K  H  F  S  M  M  I  L  S  D  D  A  V  V
15661 - TGTGCTATAACAGTAACTATGCGGCTCAAGGTTTAGTAGCTAGCATTAAGAACTTTAAGG - 15720
       - C  A  I  T  V  T  M  R  L  K  V  *  *  L  A  L  R  T  L  R
       - V  L  *  Q  *  L  C  G  S  R  F  S  S  *  H  *  E  L  *  G
       -  C  Y  N  S  N  Y  A  A  Q  G  L  V  A  S  I  K  N  F  K  A
15721 - CAGTTCTTTATTATCAAAATAATGTGTTCATGTCTGAGGCAAAATGTTGGACTGAGACTG - 15780
       - Q  F  F  I  I  K  I  M  C  S  C  L  R  Q  N  V  G  L  R  L
       - S  S  L  L  S  K  *  C  V  H  V  *  G  K  M  L  D  *  D  *
       -  V  L  Y  Y  Q  N  N  V  F  M  S  E  A  K  C  W  T  E  T  D
15781 - ACCTTACTAAAGGACCTCACGAATTTTGCTCACAGCATACAATGCTAGTTAAACAAGGAG - 15840
       - T  L  L  K  D  L  T  N  F  A  H  S  I  Q  C  *  L  N  K  E
       - P  Y  *  R  T  S  R  I  L  L  T  A  Y  N  A  S  *  T  R  R
       -  L  T  K  G  P  H  E  F  C  S  Q  H  T  M  L  V  K  Q  G  D
15841 - ATGATTACGTGTACCTGCCTTACCCAGATCCATCAAGAATATTAGGCGCAGGCTGTTTTG - 15900
       - M  I  T  C  T  C  L  T  Q  I  H  Q  E  Y  *  A  Q  A  V  L
       - *  L  R  V  P  A  L  P  R  S  I  K  N  I  R  R  R  L  F  C
       -  D  Y  V  Y  L  P  Y  P  D  P  S  R  I  L  G  A  G  C  F  V
15901 - TCGATGATATTGTCAAAACAGATGGTACACTTATGATTGAAAGGTTCGTGTCACTGGCTA - 15960
       - S  M  I  L  S  K  Q  M  V  H  L  *  L  K  G  S  C  H  W  L
       - R  *  Y  C  Q  N  R  W  Y  T  Y  D  *  K  V  R  V  T  G  Y
       -  D  D  I  V  K  T  D  G  T  L  M  I  E  R  F  V  S  L  A  I
```

FIG. 11 Con't

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15961 - TTGATGCTTACCCACTTACAAAACATCCTAATCAGGAGTATGCTGATGTCTTTCACTTGT - 16020
      - L  M  L  T  H  L  Q  N  I  L  I  R  S  M  L  M  S  F  T  C
      - *  C  L  P  T  Y  K  T  S  *  S  G  V  C  *  C  L  S  L  V
      - D  A  Y  P  L  T  K  H  P  N  Q  E  Y  A  D  V  F  H  L  Y
16021 - ATTTACAATACATTAGAAAGTTACATGATGAGCTTACTGGCCACATGTTGGACATGTATT - 16080
      - I  Y  N  T  I  H  *  K  V  T  *  *  A  Y  W  P  H  V  G  H  V  F
      - F  T  I  H  *  K  V  T  *  *  A  Y  W  P  H  V  G  H  V  F
      - L  Q  Y  I  R  K  L  H  D  E  L  T  G  H  M  L  D  M  Y  S
16081 - CCGTAATGCTAACTAATGATAACACCTCACGGTACTGGGAACCTGAGTTTTATGAGGCTA - 16140
      - P  *  C  *  L  M  I  T  P  H  G  T  G  N  L  S  F  M  R  L
      - R  N  A  N  *  *  *  H  L  T  V  L  G  T  *  V  L  *  G  Y
      - V  M  L  T  N  D  N  T  S  R  Y  W  E  P  E  F  Y  E  A  M
16141 - TGTACACACCACATACAGTCTTGCAGGCTGTAGGTGCTTGTGTATTGTGCAATTCACAGA - 16200
      - C  T  H  H  I  Q  S  C  R  L  *  V  L  V  Y  C  A  I  H  R
      - V  H  T  T  Y  S  L  A  G  C  R  C  L  C  I  V  Q  F  T  D
      - Y  T  P  H  T  V  L  Q  A  V  G  A  C  V  L  C  N  S  Q  T
16201 - CTTCACTTCGTTGCGGTGCCTGTATTAGGAGACCATTCCTATGTTGCAAGTGCTGCTATG - 16260
      - L  H  F  V  A  V  P  V  L  G  D  H  S  Y  V  A  S  A  A  M
      - F  T  S  L  R  C  L  Y  *  E  T  I  P  M  L  Q  V  L  L  *
      - S  L  R  C  G  A  C  I  R  R  P  F  L  C  C  K  C  C  Y  D
16261 - ACCATGTCATTTCAACATCACACAAATTAGTGTTGTCTGTTAATCCCTATGTTTGCAATG - 16320
      - T  M  S  F  Q  H  H  T  N  *  C  C  L  L  I  P  M  F  A  M
      - P  C  H  F  N  I  T  Q  I  S  V  V  C  *  S  L  C  L  Q  C
      - H  V  I  S  T  S  H  K  L  V  L  S  V  N  P  Y  V  C  N  A
16321 - CCCCAGGTTGTGATGTCACTGATGTGACACAACTGTATCTAGGAGGTATGAGCTATTATT - 16380
      - P  Q  V  V  M  S  L  M  *  H  N  C  I  *  E  V  *  A  I  I
      - P  R  L  *  C  H  *  C  D  T  T  V  S  R  R  Y  E  L  L  L
      - P  G  C  D  V  T  D  V  T  Q  L  Y  L  G  G  M  S  Y  Y  C
16381 - GCAAGTCACATAAGCCTCCCATTAGTTTTCCATTATGTGCTAATGGTCAGGTTTTTGGTT - 16440
      - A  S  H  I  S  L  P  L  V  F  H  Y  V  L  M  V  R  F  L  V
      - Q  V  T  *  A  S  H  *  F  S  I  M  C  *  W  S  G  F  W  F
      - K  S  H  K  P  P  I  S  F  P  L  C  A  N  G  Q  V  F  G  L
16441 - TATACAAAAACACATGTGTAGGCAGTGACAATGTCACTGACTTCAATGCGATAGCAACAT - 16500
      - Y  T  K  T  H  V  *  A  V  T  M  S  L  T  S  M  R  *  Q  H
      - I  Q  K  H  M  C  R  Q  *  Q  C  H  *  L  Q  C  D  S  N  M
      - Y  K  N  T  C  V  G  S  D  N  V  T  D  F  N  A  I  A  T  C
16501 - GTGATTGGACTAATGCTGGCGATTACATACTTGCCAACACTTGTACTGAGAGACTCAAGC - 16560
      - V  I  G  L  M  L  A  I  T  Y  L  P  T  L  V  L  R  D  S  S
      - *  L  D  *  C  W  R  L  H  T  C  Q  H  L  Y  *  E  T  Q  A
      - D  W  T  N  A  G  D  Y  I  L  A  N  T  C  T  E  R  L  K  L
16561 - TTTTCGCAGCAGAAACGCTCAAAGCCACTGAGGAAACATTTAAGCTGTCATATGGTATTG - 16620
      - F  S  Q  Q  K  R  S  K  P  L  R  K  H  L  S  C  H  M  V  L
      - F  R  S  R  N  A  Q  S  H  *  G  N  I  *  A  V  I  W  Y  C
      - F  A  A  E  T  L  K  A  T  E  E  T  F  K  L  S  Y  G  I  A
16621 - CCACTGTACGCGAAGTACTCTCTGACAGAGAATTGCATCTTTCATGGGAGGTTGGAAAAC - 16680
      - P  L  Y  A  K  Y  S  L  T  E  N  C  I  F  H  G  R  L  E  N
      - H  C  T  R  S  T  L  *  Q  R  I  A  S  F  M  G  G  W  K  T
      - T  V  R  E  V  L  S  D  R  E  L  H  L  S  W  E  V  G  K  P
16681 - CTAGACCACCATTGAACAGAAACTATGTCTTTACTGGTTACCGTGTAACTAAAATAGTA - 16740
      - L  D  H  H  *  T  E  T  M  S  L  L  V  T  V  *  L  K  I  V
      - *  T  T  I  E  Q  K  L  C  L  Y  W  L  P  C  N  *  K  *  *
      - R  P  P  L  N  R  N  Y  V  F  T  G  Y  R  V  T  K  N  S  K
16741 - AAGTACAGATTGGAGAGTACACCTTTGAAAAAGGTGACTATGGTGATGCTGTTGTGTACA - 16800
      - K  Y  R  L  E  S  T  P  L  K  K  V  T  M  V  M  L  L  C  T
      - S  T  D  W  R  V  H  L  *  K  R  *  L  W  *  C  C  C  V  Q
      - V  Q  I  G  E  Y  T  F  E  K  G  D  Y  G  D  A  V  V  Y  R
```

FIG. 11 Con't

```
16801 - GAGGTACTACGACATACAAGTTGAATGTTGGTGATTACTTTGTGTTGACATCTCACACTG - 16860
       - E  V  L  R  H  T  S  *  M  L  V  I  T  L  C  *  H  L  T  L
       - R  Y  Y  D  I  Q  V  E  C  W  *  L  L  C  V  D  I  S  H  C
       - G  T  T  T  Y  K  L  N  V  G  D  Y  F  V  L  T  S  H  T  V
16861 - TAATGCCACTTAGTGCACCTACTCTAGTGCCACAAGAGCACTATGTGAGAATTACTGGCT - 16920
       - *  C  H  L  V  H  L  L  *  C  H  K  S  T  M  *  E  L  L  A
       - N  A  T  *  C  T  Y  S  S  A  T  R  A  L  C  E  N  Y  W  L
       - M  P  L  S  A  P  T  L  V  P  Q  E  H  Y  V  R  I  T  G  L
16921 - TGTACCCAACACTCAACATCTCAGATGAGTTTTCTAGCAATGTTGCAAATTATCAAAAGG - 16980
       - C  T  Q  H  S  T  S  Q  M  S  F  L  A  M  L  Q  I  I  K  R
       - V  P  N  T  Q  H  L  R  *  V  F  *  Q  C  C  K  L  S  K  G
       - Y  P  T  L  N  I  S  D  E  F  S  S  N  V  A  N  Y  Q  K  V
16981 - TCGGCATGCAAAAGTACTCTACACTCCAAGGACCACCTGGTACTGGTAAGAGTCATTTTG - 17040
       - S  A  C  K  S  T  L  H  S  K  D  H  L  V  L  V  R  V  I  L
       - R  H  A  K  V  L  Y  T  P  R  T  T  W  Y  W  *  E  S  F  C
       - G  M  Q  K  Y  S  T  L  Q  G  P  P  G  T  G  K  S  H  F  A
17041 - CCATCGGACTTGCTCTCTATTACCCATCTGCTCGCATAGTGTATACGGCATGCTCTCATG - 17100
       - P  S  D  L  L  S  I  T  H  L  L  A  *  C  I  R  H  A  L  M
       - H  R  T  C  S  L  L  P  I  C  S  H  S  V  Y  G  M  L  S  C
       - I  G  L  A  L  Y  Y  P  S  A  R  I  V  Y  T  A  C  S  H  A
17101 - CAGCTGTTGATGCCCTATGTGAAAAGGCATTAAAATATTTGCCCATAGATAAATGTAGTA - 17160
       - Q  L  L  M  P  Y  V  K  R  H  *  N  I  C  P  *  I  N  V  V
       - S  C  *  C  P  M  *  K  G  I  K  I  F  A  H  R  *  M  *  *
       - A  V  D  A  L  C  E  K  A  L  K  Y  L  P  I  D  K  C  S  R
17161 - GAATCATACCTGCGCGTGCGCGCGTAGAGTGTTTTGATAAATTCAAAGTGAATTCAACAC - 17220
       - E  S  Y  L  R  V  R  A  *  S  V  L  I  N  S  K  *  I  Q  H
       - N  H  T  C  A  C  A  R  R  V  F  *  *  I  Q  S  E  F  N  T
       - I  I  P  A  R  A  R  V  E  C  F  D  K  F  K  V  N  S  T  L
17221 - TAGAACAGTATGTTTTCTGCACTGTAAATGCATTGCCAGAAACAACTGCTGACATTGTAG - 17280
       - *  N  S  M  F  S  A  L  *  M  H  C  Q  K  Q  L  L  T  L  *
       - R  T  V  C  F  L  H  C  K  C  I  A  R  N  N  C  *  H  C  S
       - E  Q  Y  V  F  C  T  V  N  A  L  P  E  T  T  A  D  I  V  V
17281 - TCTTTGATGAAATCTCTATGGCTACTAATTATGACTTGAGTGTTGTCAATGCTAGACTTC - 17340
       - S  L  M  K  S  L  W  L  L  I  M  T  *  V  L  S  M  L  D  F
       - L  *  *  N  L  Y  G  Y  *  L  *  L  E  C  C  Q  C  *  T  S
       - F  D  E  I  S  M  A  T  N  Y  D  L  S  V  V  N  A  R  L  R
17341 - GTGCAAAACACTACGTCTATATTGGCGATCCTGCTCAATTACCAGCCCCCGCACATTGC - 17400
       - V  Q  N  T  T  S  I  L  A  I  L  L  N  Y  Q  P  P  A  H  C
       - C  K  T  L  R  L  Y  W  R  S  C  S  I  T  S  P  P  H  I  A
       - A  K  H  Y  V  Y  I  G  D  P  A  Q  L  P  A  P  R  T  L  L
17401 - TGACTAAAGGCACACTAGAACCAGAATATTTTAATTCAGTGTGCAGACTTATGAAAACAA - 17460
       - *  L  K  A  H  *  N  Q  N  I  L  I  Q  C  A  D  L  *  K  Q
       - D  *  R  H  T  R  T  R  I  F  *  F  S  V  Q  T  Y  E  N  N
       - T  K  G  T  L  E  P  E  Y  F  N  S  V  C  R  L  M  K  T  I
17461 - TAGGTCCAGACATGTTCCTTGGAACTTGTCGCCGTTGTCCTGCTGAAATTGTTGACACTG - 17520
       - *  V  Q  T  C  S  L  E  L  V  A  V  V  L  L  K  L  L  T  L
       - R  S  R  H  V  P  W  N  L  S  P  L  S  C  *  N  C  *  H  C
       - G  P  D  M  F  L  G  T  C  R  R  C  P  A  E  I  V  D  T  V
17521 - TGAGTGCTTTAGTTTATGACAATAAGCTAAAAGCACACAAGGATAAGTCAGCTCAATGCT - 17580
       - *  V  L  *  F  M  T  I  S  *  K  H  T  R  I  S  Q  L  N  A
       - E  C  F  S  L  *  Q  *  A  K  S  T  Q  G  *  V  S  S  M  L
       - S  A  L  V  Y  D  N  K  L  K  A  H  K  D  K  S  A  Q  C  F
17581 - TCAAAATGTTCTACAAAGGTGTTATTACACATGATGTTTCATCTGCAATCAACAGACCTC - 17640
       - S  K  C  S  T  K  V  L  L  H  M  M  F  H  L  Q  S  T  D  L
       - Q  N  V  L  Q  R  C  Y  Y  T  *  C  F  I  C  N  Q  Q  T  S
       - K  M  F  Y  K  G  V  I  T  H  D  V  S  S  A  I  N  R  P  Q
```

FIG. 11 Con't

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17641 - AAATAGGCGTTGTAAGAGAATTTCTTACACGCAATCCTGCTTGGAGAAAAGCTGTTTTTA - 17700
      - K  *  A  L  *  E  N  F  L  H  A  I  L  L  G  E  K  L  F  L
      - N  R  R  C  K  R  I  S  Y  T  Q  S  C  L  E  K  S  C  F  Y
      -  I  G  V  V  R  E  F  L  T  R  N  P  A  W  R  K  A  V  F  I
17701 - TCTCACCTTATAATTCACAGAACGCTGTAGCTTCAAAAATCTTAGGATTGCCTACGCAGA - 17760
      - S  H  L  I  I  H  R  T  L  *  L  Q  K  S  *  D  C  L  R  R
      - L  T  L  *  F  T  E  R  C  S  F  K  N  L  R  I  A  Y  A  D
      -  S  P  Y  N  S  Q  N  A  V  A  S  K  I  L  G  L  P  T  Q  T
17761 - CTGTTGATTCATCACAGGGTTCTGAATATGACTATGTCATATTCACACAAACTACTGAAA - 17820
      - L  L  I  H  H  R  V  L  N  M  T  M  S  Y  S  H  K  L  L  K
      - C  *  F  I  T  G  F  *  I  *  L  C  H  I  H  T  N  Y  *  N
      -  V  D  S  S  Q  G  S  E  Y  D  Y  V  I  F  T  Q  T  T  E  T
17821 - CAGCACACTCTTGTAATGTCAACCGCTTCAATGTGGCTATCACAAGGGCAAAAATTGGCA - 17880
      - Q  H  T  L  V  M  S  T  A  S  M  W  L  S  Q  G  Q  K  L  A
      - S  T  L  L  *  C  Q  P  L  Q  C  G  Y  H  K  G  K  N  W  H
      -  A  H  S  C  N  V  N  R  F  N  V  A  I  T  R  A  K  I  G  I
17881 - TTTTGTGCATAATGTCTGATAGAGATCTTTATGACAAACTGCAATTTACAAGTCTAGAAA - 17940
      - F  C  A  *  C  L  I  E  I  F  M  T  N  C  N  L  Q  V  *  K
      - F  V  H  N  V  *  *  R  S  L  *  Q  T  A  I  Y  K  S  R  N
      -  L  C  I  M  S  D  R  D  L  Y  D  K  L  Q  F  T  S  L  E  I
17941 - TACCACGTCGCAATGTGGCTACATTACAAGCAGAAAATGTAACTGGACTTTTTAAGGACT - 18000
      - Y  H  V  A  M  W  L  H  Y  K  Q  K  M  *  L  D  F  L  R  T
      - T  T  S  Q  C  G  Y  I  T  S  R  K  C  N  W  T  F  *  G  L
      -  P  R  R  N  V  A  T  L  Q  A  E  N  V  T  G  L  F  K  D  C
18001 - GTAGTAAGATCATTACTGGTCTTCATCCTACACAGGCACCTACACACCTCAGCGTTGATA - 18060
      - V  V  R  S  L  L  V  F  I  L  H  R  H  L  H  T  S  A  L  I
      - *  *  D  H  Y  W  S  S  S  Y  T  G  T  Y  T  P  Q  R  *  Y
      -  S  K  I  I  T  G  L  H  P  T  Q  A  P  T  H  L  S  V  D  I
18061 - TAAAATTCAAGACTGAAGGATTATGTGTTGACATACCAGGCATACCAAAGGACATGACCT - 18120
      - *  N  S  R  L  K  D  Y  V  L  T  Y  Q  A  Y  Q  R  T  *  P
      - K  I  Q  D  *  R  I  M  C  *  H  T  R  H  T  K  G  H  D  L
      -  K  F  K  T  E  G  L  C  V  D  I  P  G  I  P  K  D  M  T  Y
18121 - ACCGTAGACTCATCTCTATGATGGGTTTCAAAATGAATTACCAAGTCAATGGTTACCCTA - 18180
      - T  V  D  S  S  L  *  W  V  S  K  *  I  T  K  S  M  V  T  L
      - P  *  T  H  L  Y  D  G  F  Q  N  E  L  P  S  Q  W  L  P  *
      -  R  R  L  I  S  M  M  G  F  K  M  N  Y  Q  V  N  G  Y  P  N
18181 - ATATGTTTATCACCCGCGAAGAAGCTATTCGTCACGTTCGTGCGTGGATTGGCTTTGATG - 18240
      - I  C  L  S  P  A  K  K  L  F  V  T  F  V  R  G  L  A  L  M
      - Y  V  Y  H  P  R  R  S  Y  S  S  R  S  C  V  D  W  L  *  C
      -  M  F  I  T  R  E  E  A  I  R  H  V  R  A  W  I  G  F  D  V
18241 - TAGAGGGCTGTCATGCAACTAGAGATGCTGTGGGTACTAACCTACCTCTCCAGCTAGGAT - 18300
      - *  R  A  V  M  Q  L  E  M  L  W  V  L  T  Y  L  S  S  *  D
      - R  G  L  S  C  N  *  R  C  C  G  Y  *  P  T  S  P  A  R  I
      -  E  G  C  H  A  T  R  D  A  V  G  T  N  L  P  L  Q  L  G  F
18301 - TTTCTACAGGTGTTAACTTAGTAGCTGTACCGACTGGTTATGTTGACACTGAAAATAACA - 18360
      - F  L  Q  V  L  T  *  *  L  Y  R  L  V  M  L  T  L  K  I  T
      - F  Y  R  C  *  L  S  S  C  T  D  W  L  C  *  H  *  K  *  H
      -  S  T  G  V  N  L  V  A  V  P  T  G  Y  V  D  T  E  N  N  T
18361 - CAGAATTCACCAGAGTTAATGCAAAACCTCCACCAGGTGACCAGTTTAAACATCTTATAC - 18420
      - Q  N  S  P  E  L  M  Q  N  L  H  Q  V  T  S  L  N  I  L  Y
      - R  I  H  Q  S  *  C  K  T  S  T  R  *  P  V  *  T  S  Y  T
      -  E  F  T  R  V  N  A  K  P  P  P  G  D  Q  F  K  H  L  I  P
18421 - CACTCATGTATAAAGGCTTGCCCTGGAATGTAGTGCGTATTAAGATAGTACAAATGCTCA - 18480
      - H  S  C  I  K  A  C  P  G  M  *  C  V  L  R  *  Y  K  C  S
      - T  H  V  *  R  L  A  L  E  C  S  A  Y  *  D  S  T  N  A  Q
      -  L  M  Y  K  G  L  P  W  N  V  V  R  I  K  I  V  Q  M  L  S
```

FIG. 11 Con't

```
18481 - GTGATACACTGAAAGGATTGTCAGACAGAGTCGTGTTCGTCCTTTGGGCGCATGGCTTTG - 18540
       - V  I  H  *  K  D  C  Q  T  E  S  C  S  S  F  G  R  M  A  L
       - *  Y  T  E  R  I  V  R  Q  S  R  V  R  P  L  G  A  W  L  *
       -  D  T  L  K  G  L  S  D  R  V  V  F  V  L  W  A  H  G  F  E

18541 - AGCTTACATCAATGAAGTACTTTGTCAAGATTGGACCTGAAAGAACGTGTTGTCTGTGTG - 18600
       - S  L  H  Q  *  S  T  L  S  R  L  D  L  K  E  R  V  V  C  V
       - A  Y  I  N  E  V  L  C  Q  D  W  T  *  K  N  V  L  S  V  *
       -  L  T  S  M  K  Y  F  V  K  I  G  P  E  R  T  C  C  L  C  D

18601 - ACAAACGTGCAACTTGCTTTTCTACTTCATCAGATACTTATGCCTGCTGGAATCATTCTG - 18660
       - T  N  V  Q  L  A  F  L  L  H  Q  I  L  M  P  A  G  I  I  L
       - Q  T  C  N  L  L  F  Y  F  I  R  Y  L  C  L  L  E  S  F  C
       -  K  R  A  T  C  F  S  T  S  S  D  T  Y  A  C  W  N  H  S  V

18661 - TGGGTTTTGACTATGTCTATAACCCATTTATGATTGATGTTCAGCAGTGGGGCTTTACGG - 18720
       - W  V  L  T  M  S  I  T  H  L  *  L  M  F  S  S  G  A  L  R
       - G  F  *  L  C  L  *  P  I  Y  D  *  C  S  A  V  G  L  Y  G
       -  G  F  D  Y  V  Y  N  P  F  M  I  D  V  Q  Q  W  G  F  T  G

18721 - GTAACCTTCAGAGTAACCATGACCAACATTGCCAGGTACATGGAAATGCACATGTGGCTA - 18780
       - V  T  F  R  V  T  M  T  N  I  A  R  Y  M  E  M  H  M  W  L
       - *  P  S  E  *  P  *  P  T  L  P  G  T  W  K  C  T  C  G  *
       -  N  L  Q  S  N  H  D  Q  H  C  Q  V  H  G  N  A  H  V  A  S

18781 - GTTGTGATGCTATCATGACTAGATGTTTAGCAGTCCATGAGTGCTTTGTTAAGCGCGTTG - 18840
       - V  V  M  L  S  *  L  D  V  *  Q  S  M  S  A  L  L  S  A  L
       - L  *  C  Y  H  D  *  M  F  S  S  P  *  V  L  C  *  A  R  *
       -  C  D  A  I  M  T  R  C  L  A  V  H  E  C  F  V  K  R  V  D

18841 - ATTGGTCTGTTGAATACCCTATTATAGGAGATGAACTGAGGGTTAATTCTGCTTGCAGAA - 18900
       - I  G  L  L  N  T  L  L  *  E  M  N  *  G  L  I  L  L  A  E
       - L  V  C  *  I  P  Y  Y  R  R  *  T  E  G  *  F  C  L  Q  K
       -  W  S  V  E  Y  P  I  I  G  D  E  L  R  V  N  S  A  C  R  K

18901 - AAGTACAACACATGGTTGTGAAGTCTGCATTGCTTGCTGATAAGTTTCCAGTTCTTCATG - 18960
       - K  Y  N  T  W  L  *  S  L  H  C  L  L  I  S  F  Q  F  F  M
       - S  T  T  H  G  C  E  V  C  I  A  C  *  *  V  S  S  S  *
       -  V  Q  H  M  V  V  K  S  A  L  L  A  D  K  F  P  V  L  H  D

18961 - ACATTGGAAATCCAAAGGCTATCAAGTGTGTGCCTCAGGCTGAAGTAGAATGGAAGTTCT - 19020
       - T  L  E  I  Q  R  L  S  S  V  C  L  R  L  K  *  N  G  S  S
       - H  W  K  S  K  G  Y  Q  V  C  A  S  G  *  S  R  M  E  V  L
       -  I  G  N  P  K  A  I  K  C  V  P  Q  A  E  V  E  W  K  F  Y

19021 - ACGATGCTCAGCCATGTAGTGACAAAGCTTACAAAATAGAGGAACTCTTCTATTCTTATG - 19080
       - T  M  L  S  H  V  V  T  K  L  T  K  *  R  N  S  S  I  L  M
       - R  C  S  A  M  *  *  Q  S  L  Q  N  R  G  T  L  L  F  L  C
       -  D  A  Q  P  C  S  D  K  A  Y  K  I  E  E  L  F  Y  S  Y  A

19081 - CTACACATCACGATAAATTCACTGATGGTGTTTGTTTGTTTTGGAATTGTAACGTTGATC - 19140
       - L  H  I  T  I  N  S  L  M  V  F  V  C  F  G  I  V  T  L  I
       - Y  T  S  R  *  I  H  *  W  C  L  F  V  L  E  L  *  R  *  S
       -  T  H  H  D  K  F  T  D  G  V  C  L  F  W  N  C  N  V  D  R

19141 - GTTACCCAGCCAATGCAATTGTGTGTAGGTTTGACACAAGAGTCTTGTCAAACTTGAACT - 19200
       - V  T  Q  P  M  Q  L  C  V  G  L  T  Q  E  S  C  Q  T  *  T
       - L  P  S  Q  C  N  C  V  *  V  *  H  K  S  L  V  K  L  E  L
       -  Y  P  A  N  A  I  V  C  R  F  D  T  R  V  L  S  N  L  N  L

19201 - TACCAGGCTGTGATGGTGGTAGTTTGTATGTGAATAAGCATGCATTCCACACTCCAGCTT - 19260
       - Y  Q  A  V  M  V  V  V  C  M  *  I  S  M  H  S  T  L  Q  L
       - T  R  L  *  W  W  *  F  V  C  E  *  A  C  I  P  H  S  S  F
       -  P  G  C  D  G  G  S  L  Y  V  N  K  H  A  F  H  T  P  A  F

19261 - TCGATAAAAGTGCATTTACTAATTTAAAGCAATTGCCTTTCTTTTACTATTCTGATAGTC - 19320
       - S  I  K  V  H  L  L  I  *  S  N  C  L  S  F  T  I  L  I  V
       - R  *  K  C  I  Y  *  F  K  A  I  A  F  L  L  L  F  *  *  S
       -  D  K  S  A  F  T  N  L  K  Q  L  P  F  F  Y  Y  S  D  S  P
```

FIG. 11 Con't

```
19321 - CTTGTGAGTCTCATGGCAAACAAGTAGTGTCGGATATTGATTATGTTCCACTCAAATCTG - 19380
       - L  V  S  L  M  A  N  K  *  C  R  I  L  I  M  F  H  S  N  L
       - L  *  V  S  W  Q  T  S  S  V  G  Y  *  L  C  S  T  Q  I  C
       -  C  E  S  H  G  K  Q  V  V  S  D  I  D  Y  V  P  L  K  S  A
19381 - CTACGTGTATTACACGATGCAATTTAGGTGGTGCTGTTTGCAGACACCATGCAAATGAGT - 19440
       - L  R  V  L  H  D  A  I  *  V  V  L  F  A  D  T  M  Q  M  S
       - Y  V  V  Y  Y  T  M  Q  F  R  W  C  C  L  Q  T  P  C  K  *  V
       -  T  C  I  T  R  C  N  L  G  G  A  V  C  R  H  H  A  N  E  Y
19441 - ACCGACAGTACTTGGATGCATATAATATGATGATTTCTGCTGGATTTAGCCTATGGATTT - 19500
       - T  D  S  T  W  M  H  I  I  *  *  F  L  L  D  L  A  Y  G  F
       - P  T  V  L  G  C  I  *  Y  D  D  F  C  W  I  *  P  M  D  L
       -  R  Q  Y  L  D  A  Y  N  M  M  I  S  A  G  F  S  L  W  I  Y
19501 - ACAAACAATTTGATACTTATAACCTGTGGAATACATTTACCAGGTTACAGAGTTTAGAAA - 19560
       - T  N  N  L  I  L  I  T  C  G  I  H  L  P  G  Y  R  V  *  K
       - Q  T  I  *  Y  L  *  P  V  E  Y  I  Y  Q  V  T  E  F  R  K
       -  K  Q  F  D  T  Y  N  L  W  N  T  F  T  R  L  Q  S  L  E  N
19561 - ATGTGGCTTATAATGTTGTTAATAAAGGACACTTTGATGGACACGCCGGCGAAGCACCTG - 19620
       - M  W  L  I  M  L  L  I  K  D  T  L  M  D  T  P  A  K  H  L
       - C  G  L  *  C  C  *  *  R  T  L  *  W  T  R  R  R  S  T  C
       -  V  A  Y  N  V  V  N  K  G  H  F  D  G  H  A  G  E  A  P  V
19621 - TTTCCATCATTAATAATGCTGTTTACACAAAGGTAGATGGTATTGATGTGGAGATCTTTG - 19680
       - F  P  S  L  I  M  L  F  T  Q  R  *  M  V  L  M  W  R  S  L
       - F  H  H  *  *  C  C  L  H  K  G  R  W  Y  *  C  G  D  L  *
       -  S  I  I  N  N  A  V  Y  T  K  V  D  G  I  D  V  E  I  F  E
19681 - AAAATAAGACAACACTTCCTGTTAATGTTGCATTTGAGCTTTGGGCTAAGCGTAACATTA - 19740
       - K  I  R  Q  H  F  L  L  M  L  H  L  S  F  G  L  S  V  T  L
       - K  *  D  N  T  S  C  *  C  C  I  *  A  L  G  *  A  *  H  *
       -  N  K  T  T  L  P  V  N  V  A  F  E  L  W  A  K  R  N  I  K
19741 - AACCAGTGCCAGAGATTAAGATACTCAATAATTTGGGTGTTGATATCGCTGCTAATACTG - 19800
       - N  Q  C  Q  R  L  R  Y  S  I  I  W  V  L  I  S  L  L  I  L
       - T  S  A  R  D  *  D  T  Q  *  F  G  C  *  Y  R  C  *  Y  C
       -  P  V  P  E  I  K  I  L  N  N  L  G  V  D  I  A  A  N  T  V
19801 - TAATCTGGGACTACAAAAGAGAAGCCCCAGCACATGTATCTACAATAGGTGTCTGCACAA - 19860
       - *  S  G  T  T  K  E  K  P  Q  H  M  Y  L  Q  *  V  S  A  Q
       - N  L  G  L  Q  K  R  S  P  S  T  C  I  Y  N  R  C  L  H  N
       -  I  W  D  Y  K  R  E  A  P  A  H  V  S  T  I  G  V  C  T  M
19861 - TGACTGACATTGCCAAGAAACCTACTGAGAGTGCTTGTTCTTCACTTACTGTCTTGTTTG - 19920
       - *  L  T  L  P  R  N  L  L  R  V  L  V  L  H  L  L  S  C  L
       - D  *  H  C  Q  E  T  Y  *  E  C  L  F  F  T  Y  C  L  V  *
       -  T  D  I  A  K  K  P  T  E  S  A  C  S  S  L  T  V  L  F  D
19921 - ATGGTAGAGTGGAAGGACAGGTAGACCTTTTTAGAAACGCCCGTAATGGTGTTTTAATAA - 19980
       - M  V  E  W  K  D  R  *  T  F  L  E  T  P  V  M  V  F  *  *
       - W  *  S  G  R  T  G  R  P  F  *  K  R  P  *  W  C  F  N  N
       -  G  R  V  E  G  Q  V  D  L  F  R  N  A  R  N  G  V  L  I  T
19981 - CAGAAGGTTCAGTCAAAGGTCTAACACCTTCAAAGGGACCAGCACAAGCTAGCGTCAATG - 20040
       - Q  K  V  Q  S  K  V  *  H  L  Q  R  D  Q  H  K  L  A  S  M
       - R  R  F  S  Q  R  S  N  T  F  K  G  T  S  T  S  *  R  Q  W
       -  E  G  S  V  K  G  L  T  P  S  K  G  P  A  Q  A  S  V  N  G
20041 - GAGTCACATTAATTGGAGAATCAGTAAAAACACAGTTTAACTACTTTAAGAAAGTAGACG - 20100
       - E  S  H  *  L  E  N  Q  *  K  H  S  L  T  T  L  R  K  *  T
       - S  H  I  N  W  R  I  S  K  N  T  V  *  L  L  *  E  S  R  R
       -  V  T  L  I  G  E  S  V  K  T  Q  F  N  Y  F  K  K  V  D  G
20101 - GCATTATTCAACAGTTGCCTGAAACCTACTTTACTCAGAGCAGAGACTTAGAGGATTTTA - 20160
       - A  L  F  N  S  C  L  K  P  T  L  L  R  A  E  T  *  R  I  L
       - H  Y  S  T  V  A  *  N  L  L  Y  S  E  Q  R  L  R  G  F  *
       -  I  I  Q  Q  L  P  E  T  Y  F  T  Q  S  R  D  L  E  D  F  K
```

FIG. 11 Con't

```
20161 - AGCCCAGATCACAAATGGAAACTGACTTTCTCGAGCTCGCTATGGATGAATTCATACAGC - 20220
       - S  P  D  H  K  W  K  L  T  F  S  S  S  L  W  M  N  S  Y  S
       - A  Q  I  T  N  G  N  *  L  S  R  A  R  Y  G  *  I  H  T  A
       - P  R  S  Q  M  E  T  D  F  L  E  L  A  M  D  E  F  I  Q  R
20221 - GATATAAGCTCGAGGGCTATGCCTTCGAACACATCGTTTATGGAGATTTCAGTCATGGAC - 20280
       - D  I  S  S  R  A  M  P  S  N  T  S  F  M  E  I  S  V  M  D
       - I  *  A  R  G  L  C  L  R  T  H  R  L  W  R  F  Q  S  W  T
       - Y  K  L  E  G  Y  A  F  E  H  I  V  Y  G  D  F  S  H  G  Q
20281 - AACTTGGCGGTCTTCATTTAATGATAGGCTTAGCCAAGCGCTCACAAGATTCACCACTTA - 20340
       - N  L  A  V  F  I  *  *  *  A  *  P  S  A  H  K  I  H  H  L
       - T  W  R  S  S  F  N  D  R  L  S  Q  A  L  T  R  F  T  T  *
       - L  G  G  L  H  L  M  I  G  L  A  K  R  S  Q  D  S  P  L  K
20341 - AATTAGAGGATTTTATCCCTATGGACAGCACAGTGAAAAATTACTTCATAACAGATGCGC - 20400
       - N  *  R  I  L  S  L  W  T  A  Q  *  K  I  T  S  *  Q  M  R
       - I  R  G  F  Y  P  Y  G  Q  H  S  E  K  L  L  H  N  R  C  A
       - L  E  D  F  I  P  M  D  S  T  V  K  N  Y  F  I  T  D  A  Q
20401 - AAACAGGTTCATCAAAATGTGTGTGTTCTGTGATTGATCTTTTACTTGATGACTTTGTCG - 20460
       - K  Q  V  H  Q  N  V  C  V  L  *  L  I  F  Y  L  M  T  L  S
       - N  R  F  I  K  M  C  V  F  C  D  *  S  F  T  *  *  L  C  R
       - T  G  S  S  K  C  V  C  S  V  I  D  L  L  L  D  D  F  V  E
20461 - AGATAATAAAGTCACAAGATTTGTCAGTGATTTCAAAAGTGGTCAAGGTTACAATTGACT - 20520
       - R  *  *  S  H  K  I  C  Q  *  F  Q  K  W  S  R  L  Q  L  T
       - D  N  K  V  T  R  F  V  S  D  F  K  S  G  Q  G  Y  N  *  L
       - I  I  K  S  Q  D  L  S  V  I  S  K  V  V  K  V  T  I  D  Y
20521 - ATGCTGAAATTTCATTCATGCTTTGGTGTAAGGATGGACATGTTGAAACCTTCTACCCAA - 20580
       - M  L  K  F  H  S  C  F  G  V  R  M  D  M  L  K  P  S  T  Q
       - C  *  N  F  I  H  A  L  V  *  G  W  T  C  *  N  L  L  P  K
       - A  E  I  S  F  M  L  W  C  K  D  G  H  V  E  T  F  Y  P  K
20581 - AACTACAAGCAAGTCAAGCGTGGCAACCAGGTGTTGCGATGCCTAACTTGTACAAGATGC - 20640
       - N  Y  K  Q  V  K  R  G  N  Q  V  L  R  C  L  T  C  T  R  C
       - T  T  S  K  S  S  V  A  T  R  C  C  D  A  *  L  V  Q  D  A
       - L  Q  A  S  Q  A  W  Q  P  G  V  A  M  P  N  L  Y  K  M  Q
20641 - AAAGAATGCTTCTTGAAAAGTGTGACCTTCAGAATTATGGTGAAAATGCTGTTATACCAA - 20700
       - K  E  C  F  L  K  S  V  T  F  R  I  M  V  K  M  L  L  Y  Q
       - K  N  A  S  *  K  V  *  P  S  E  L  W  *  K  C  C  Y  T  K
       - R  M  L  L  E  K  C  D  L  Q  N  Y  G  E  N  A  V  I  P  K
20701 - AAGGAATAATGATGAATGTCGCAAAGTATACTCAACTGTGTCAATACTTAAATACACTTA - 20760
       - K  E  *  *  *  M  S  Q  S  I  L  N  C  V  N  T  *  I  H  L
       - R  N  N  D  E  C  R  K  V  Y  S  T  V  S  I  L  K  Y  T  Y
       - G  I  M  M  N  V  A  K  Y  T  Q  L  C  Q  Y  L  N  T  L  T
20761 - CTTTAGCTGTACCCTACAACATGAGAGTTATTCACTTTGGTGCTGGCTCTGATAAAGGAG - 20820
       - L  *  L  Y  P  T  T  *  E  L  F  T  L  V  L  A  L  I  K  E
       - F  S  C  T  L  Q  H  E  S  Y  S  L  W  C  W  L  *  *  R  S
       - L  A  V  P  Y  N  M  R  V  I  H  F  G  A  G  S  D  K  G  V
20821 - TTGCACCAGGTACAGCTGTGCTCAGACAATGGTTGCCAACTGGCACACTACTTGTCGATT - 20880
       - L  H  Q  V  Q  L  C  S  D  N  G  C  Q  L  A  H  Y  L  S  I
       - C  T  R  Y  S  C  A  Q  T  M  V  A  N  W  H  T  T  C  R  F
       - A  P  G  T  A  V  L  R  Q  W  L  P  T  G  T  L  L  V  D  S
20881 - CAGATCTTAATGACTTCGTCTCCGACGCAGATTCTACTTTAATTGGAGACTGTGCAACAG - 20940
       - Q  I  L  M  T  S  S  P  T  Q  I  L  L  *  L  E  T  V  Q  Q
       - R  S  *  *  L  R  L  R  R  R  F  Y  F  N  W  R  L  C  N  S
       - D  L  N  D  F  V  S  D  A  D  S  T  L  I  G  D  C  A  T  V
20941 - TACATACGGCTAATAAATGGGACCTTATTATTAGCGATATGTATGACCCTAGGACCAAAC - 21000
       - Y  I  R  L  I  N  G  T  L  L  L  A  I  C  M  T  L  G  P  N
       - T  Y  G  *  *  M  G  P  Y  Y  *  R  Y  V  *  P  *  D  Q  T
       - H  T  A  N  K  W  D  L  I  I  S  D  M  Y  D  P  R  T  K  H
```

FIG. 11 Con't

```
21001 - ATGTGACAAAAGAGAATGACTCTAAAGAAGGGTTTTTCACTTATCTGTGTGGATTTATAA - 21060
       -  M  *  Q  K  R  M  T  L  K  K  G  F  S  L  I  C  V  D  L  *
       -  C  D  K  R  E  *  L  *  R  R  V  F  H  L  S  V  W  I  Y  K
       -  V  T  K  E  N  D  S  K  E  G  F  F  T  Y  L  C  G  F  I  K
21061 - AGCAAAAACTAGCCCTGGGTGGTTCTATAGCTGTAAAGATAACAGAGCATTCTTGGAATG - 21120
       -  S  K  N  *  P  W  V  V  L  *  L  *  R  *  Q  S  I  L  G  M
       -  A  K  T  S  P  G  W  F  Y  S  C  K  D  N  R  A  F  L  E  C
       -  Q  K  L  A  L  G  G  S  I  A  V  K  I  T  E  H  S  W  N  A
21121 - CTGACCTTTACAAGCTTATGGGCCATTTCTCATGGTGGACAGCTTTTGTTACAAATGTAA - 21180
       -  L  T  F  T  S  L  W  A  I  S  H  G  G  Q  L  L  L  Q  M  *
       -  *  P  L  Q  A  Y  G  P  F  L  M  V  D  S  F  C  Y  K  C  K
       -  D  L  Y  K  L  M  G  H  F  S  W  W  T  A  F  V  T  N  V  N
21181 - ATGCATCATCATCGGAAGCATTTTTAATTGGGGCTAACTATCTTGGCAAGCCGAAGGAAC - 21240
       -  M  H  H  H  R  K  H  F  *  L  G  L  T  I  L  A  S  R  R  N
       -  C  I  I  I  G  S  I  F  N  W  G  *  L  S  W  Q  A  E  G  T
       -  A  S  S  S  E  A  F  L  I  G  A  N  Y  L  G  K  P  K  E  Q
21241 - AAATTGATGGCTATACCATGCATGCTAACTACATTTTCTGGAGGAACACAAATCCTATCC - 21300
       -  K  L  M  A  I  P  C  M  L  T  T  F  S  G  G  T  Q  I  L  S
       -  N  *  W  L  Y  H  A  C  *  L  H  F  L  E  E  H  K  S  Y  P
       -  I  D  G  Y  T  M  H  A  N  Y  I  F  W  R  N  T  N  P  I  Q
21301 - AGTTGTCTTCCTATTCACTCTTTGACATGAGCAAATTTCCTCTTAAATTAAGAGGAACTG - 21360
       -  S  C  L  P  I  H  S  L  T  *  A  N  F  L  L  N  *  E  E  L
       -  V  V  F  L  F  T  L  *  H  E  Q  I  S  S  *  I  K  R  N  C
       -  L  S  S  Y  S  L  F  D  M  S  K  F  P  L  K  L  R  G  T  A
21361 - CTGTAATGTCTCTTAAGGAGAATCAAATCAATGATATGATTTATTCTCTTCTGGAAAAAG - 21420
       -  L  *  C  L  L  R  R  I  K  S  M  I  *  F  I  L  F  W  K  K
       -  C  N  V  S  *  G  E  S  N  Q  *  Y  D  L  F  S  S  G  K  R
       -  V  M  S  L  K  E  N  Q  I  N  D  M  I  Y  S  L  L  E  K  G
21421 - GTAGGCTTATCATTAGAGAAAACAACAGAGTTGTGGTTTCAAGTGATATTCTTGTTAACA - 21480
       -  V  G  L  S  L  E  K  T  T  E  L  W  F  Q  V  I  F  L  L  T
       -  *  A  Y  H  *  R  K  Q  Q  S  C  G  F  K  *  Y  S  C  *  Q
       -  R  L  I  I  R  E  N  N  R  V  V  V  S  S  D  I  L  V  N  N
21481 - ACTAAACGAACATGTTTATTTTCTTATTATTTCTTACTCTCACTAGTGGTAGTGACCTTG - 21540
       -  T  K  R  T  C  L  F  S  Y  Y  F  L  L  S  L  V  V  V  T  L
       -  L  N  E  H  V  Y  F  L  I  I  S  Y  S  H  *  W  *  *  P  *
       -  *  T  N  M  F  I  F  L  L  F  L  T  L  T  S  G  S  D  L  D
21541 - ACCGGTGCACCACTTTTGATGATGTTCAAGCTCCTAATTACACTCAACATACTTCATCTA - 21600
       -  T  G  A  P  L  L  M  M  F  K  L  L  I  T  L  N  I  L  H  L
       -  P  V  H  H  F  *  *  C  S  S  *  L  H  S  T  Y  F  I  Y
       -  R  C  T  T  F  D  D  V  Q  A  P  N  Y  T  Q  H  T  S  S  M
21601 - TGAGGGGGGTTTACTATCCTGATGAAATTTTTAGATCAGACACTCTTTATTTAACTCAGG - 21660
       -  *  G  G  F  T  I  L  M  K  F  L  D  Q  T  L  F  I  *  L  R
       -  E  G  G  L  L  S  *  *  N  F  *  I  R  H  S  L  F  N  S  G
       -  R  G  V  Y  Y  P  D  E  I  F  R  S  D  T  L  Y  L  T  Q  D
21661 - ATTTATTTCTTCCATTTATTCTAATGTTACAGGGTTTCATACTATTAATCATACGTTTG - 21720
       -  I  Y  F  F  H  F  I  L  M  L  Q  G  F  I  L  L  I  R  L
       -  F  I  S  S  I  L  F  *  C  Y  R  V  S  Y  Y  *  S  Y  V  W
       -  L  F  L  P  F  Y  S  N  V  T  G  F  H  T  I  N  H  T  F  G
21721 - GCAACCCTGTCATACCTTTTAAGGATGGTATTTATTTTGCTGCCACAGAGAAATCAAATG - 21780
       -  A  T  L  S  Y  L  L  R  M  V  F  I  L  L  P  Q  R  N  Q  M
       -  Q  P  C  H  T  F  *  G  W  Y  L  F  C  C  H  R  E  I  K  C
       -  N  P  V  I  P  F  K  D  G  I  Y  F  A  A  T  E  K  S  N  V
21781 - TTGTCCGTGGTTGGGTTTTTGGTTCTACCATGAACAACAAGTCACAGTCGGTGATTATTA - 21840
       -  L  S  V  V  G  F  L  V  L  P  *  T  T  S  H  S  R  *  L  L
       -  C  P  W  L  G  F  W  F  Y  H  E  Q  Q  V  T  V  G  D  Y  Y
       -  V  R  G  W  V  F  G  S  T  M  N  N  K  S  Q  S  V  I  I  I
```

FIG. 11 Con't

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21841 - TTAACAATTCTACTAATGTTGTTATACGAGCATGTAACTTTGAATTGTGTGACAACCCTT - 21900
      -  L  T  I  L  L  M  L  L  Y  E  H  V  T  L  N  C  V  T  T  L
      -  *  Q  F  Y  *  C  C  Y  T  S  M  *  L  *  I  V  *  Q  P  F
      -  N  N  S  T  N  V  V  I  R  A  C  N  F  E  L  C  D  N  P  F
21901 - TCTTTGCTGTTTCTAAACCCATGGGTACACAGACACATACTATGATATTCGATAATGCAT - 21960
      -  S  L  L  F  L  N  P  W  V  H  R  H  I  L  *  Y  S  I  M  H
      -  L  C  C  F  *  T  H  G  Y  T  D  T  Y  Y  D  I  R  *  C  I
      -  F  A  V  S  K  P  M  G  T  Q  T  H  T  M  I  F  D  N  A  F
21961 - TTAATTGCACTTTCGAGTACATATCTGATGCCTTTTCGCTTGATGTTTCAGAAAAGTCAG - 22020
      -  L  I  A  L  S  S  T  Y  L  M  P  F  R  L  M  F  Q  K  S  Q
      -  *  L  H  F  R  V  H  I  *  C  L  F  A  *  C  F  R  K  V  R
      -  N  C  T  F  E  Y  I  S  D  A  F  S  L  D  V  S  E  K  S  G
22021 - GTAATTTTAAACACTTACGAGAGTTTGTGTTTAAAAATAAAGATGGGTTTCTCTATGTTT - 22080
      -  V  I  L  N  T  Y  E  S  L  C  L  K  I  K  M  G  F  S  M  F
      -  *  F  *  T  L  T  R  V  C  V  *  K  *  R  W  V  S  L  C  L
      -  N  F  K  H  L  R  E  F  V  F  K  N  K  D  G  F  L  Y  V  Y
22081 - ATAAGGGCTATCAACCTATAGATGTAGTTCGTGATCTACCTTCTGGTTTTAACACTTTGA - 22140
      -  I  R  A  I  N  L  *  M  *  F  V  I  Y  L  L  V  L  T  L  *
      -  *  G  L  S  T  Y  R  C  S  S  *  S  T  F  W  F  *  H  F  E
      -  K  G  Y  Q  P  I  D  V  V  R  D  L  P  S  G  F  N  T  L  K
22141 - AACCTATTTTTAAGTTGCCTCTTGGTATTAACATTACAAATTTTAGAGCCATTCTTACAG - 22200
      -  N  L  F  L  S  C  L  L  V  L  T  L  Q  I  L  E  P  F  L  Q
      -  T  Y  F  *  V  A  S  W  Y  *  H  Y  K  F  *  S  H  S  Y  S
      -  P  I  F  K  L  P  L  G  I  N  I  T  N  F  R  A  I  L  T  A
22201 - CCTTTTCACCTGCTCAAGACATTTGGGGCACGTCAGCTGCAGCCTATTTTGTTGGCTATT - 22260
      -  P  F  H  L  L  K  T  F  G  A  R  Q  L  Q  P  I  L  L  A  I
      -  L  F  T  C  S  R  H  L  G  H  V  S  C  S  L  F  C  W  L  F
      -  F  S  P  A  Q  D  I  W  G  T  S  A  A  A  Y  F  V  G  Y  L
22261 - TAAAGCCAACTACATTTATGCTCAAGTATGATGAAAATGGTACAATCACAGATGCTGTTG - 22320
      -  *  S  Q  L  H  L  C  S  S  M  M  K  M  V  Q  S  Q  M  L  L
      -  K  A  N  Y  I  Y  A  Q  V  *  *  K  W  Y  N  H  R  C  C  *
      -  K  P  T  T  F  M  L  K  Y  D  E  N  G  T  I  T  D  A  V  D
22321 - ATTGTTCTCAAAATCCACTTGCTGAACTCAAATGCTCTGTTAAGAGCTTTGAGATTGACA - 22380
      -  I  V  L  K  I  H  L  L  N  S  N  A  L  L  R  A  L  R  L  T
      -  L  F  S  K  S  T  C  *  T  Q  M  L  C  *  E  L  *  D  *  Q
      -  C  S  Q  N  P  L  A  E  L  K  C  S  V  K  S  F  E  I  D  K
22381 - AAGGAATTTACCAGACCTCTAATTTCAGGGTTGTTCCCTCAGGAGATGTTGTGAGATTCC - 22440
      -  K  E  F  T  R  P  L  I  S  G  L  F  P  Q  E  M  L  *  D  S
      -  R  N  L  P  D  L  *  F  Q  G  C  S  L  R  R  C  C  E  I  P
      -  G  I  Y  Q  T  S  N  F  R  V  V  P  S  G  D  V  V  R  F  P
22441 - CTAATATTACAAACTTGTGTCCTTTTGGAGAGGTTTTTAATGCTACTAAATTCCCTTCTG - 22500
      -  L  I  L  Q  T  C  V  L  L  E  R  F  L  M  L  L  N  S  L  L
      -  *  Y  Y  K  L  V  S  F  W  R  G  F  *  C  Y  *  I  P  F  C
      -  N  I  T  N  L  C  P  F  G  E  V  F  N  A  T  K  F  P  S  V
22501 - TCTATGCATGGGAGAGAAAAAAAATTTCTAATTGTGTTGCTGATTACTCTGTGCTCTACA - 22560
      -  S  M  H  G  R  E  K  K  F  L  I  V  L  L  I  T  L  C  S  T
      -  L  C  M  G  E  K  K  N  F  *  L  C  C  *  L  L  C  A  L  Q
      -  Y  A  W  E  R  K  K  I  S  N  C  V  A  D  Y  S  V  L  Y  N
22561 - ACTCAACATTTTTTTCAACCTTTAAGTGCTATGGCGTTTCTGCCACTAAGTTGAATGATC - 22620
      -  T  Q  H  F  F  Q  P  L  S  A  M  A  F  L  P  L  S  *  M  I
      -  L  N  I  F  F  N  L  *  V  L  W  R  F  C  H  *  V  E  *  S
      -  S  T  F  F  S  T  F  K  C  Y  G  V  S  A  T  K  L  N  D  L
22621 - TTTGCTTCTCCAATGTCTATGCAGATTCTTTTGTAGTCAAGGGAGATGATGTAAGACAAA - 22680
      -  F  A  S  P  M  S  M  Q  I  L  L  *  S  R  E  M  M  *  D  K
      -  L  L  L  Q  C  L  C  R  F  F  C  S  Q  G  R  *  C  K  T  N
      -  C  F  S  N  V  Y  A  D  S  F  V  V  K  G  D  D  V  R  Q  I
```

FIG. 11 Con't

```
22681 - TAGCGCCAGGACAAACTGGTGTTATTGCTGATTATAATTATAAATTGCCAGATGATTTCA - 22740
       - *  R  Q  D  K  L  V  L  L  L  I  I  I  I  N  C  Q  M  I  S
       -  S  A  R  T  N  W  C  Y  C  *  L  *  L  *  I  A  R  *  F  H
       -    A  P  G  Q  T  G  V  I  A  D  Y  N  Y  K  L  P  D  D  F  M
22741 - TGGGTTGTGTCCTTGCTTGGAATACTAGGAACATTGATGCTACTTCAACTGGTAATTATA - 22800
       - W  V  V  S  L  L  G  I  L  G  T  L  M  L  L  Q  L  V  I  I
       -  G  L  C  P  C  L  E  Y  *  E  H  .* C  Y  F  N  W  *  L  *
       -    G  C  V  L  A  W  N  T  R  N  I  D  A  T  S  T  G  N  Y  N
22801 - ATTATAAATATAGGTATCTTAGACATGGCAAGCTTAGGCCCTTTGAGAGAGACATATCTA - 22860
       - I  I  N  I  G  I  L  D  M  A  S  L  G  P  L  R  E  T  Y  L
       -  L  *  I  *  V  S  *  T  W  Q  A  *  A  L  *  E  R  H  I  *
       -    Y  K  Y  R  Y  L  R  H  G  K  L  R  P  F  E  R  D  I  S  N
22861 - ATGTGCCTTTCTCCCCTGATGGCAAACCTTGCACCCCACCTGCTCTTAATTGTTATTGGC - 22920
       - M  C  L  S  P  L  M  A  N  L  A  P  H  L  L  L  I  V  I  G
       -  C  A  F  L  P  *  W  Q  T  L  H  P  T  C  S  *  L  L  L  A
       -    V  P  F  S  P  D  G  K  P  C  T  P  P  A  L  N  C  Y  W  P
22921 - CATTAAATGATTATGGTTTTTACACCACTACTGGCATTGGCTACCAACCTTACAGAGTTG - 22980
       - H  *  M  I  M  V  F  T  P  L  L  A  L  A  T  N  L  T  E  L
       -  I  K  *  L  W  F  L  H  H  Y  W  H  W  L  P  T  L  Q  S  C
       -    L  N  D  Y  G  F  Y  T  T  T  G  I  G  Y  Q  P  Y  R  V  V
22981 - TAGTACTTTCTTTTGAACTTTTAAATGCACCGGCCACGGTTTGTGGACCAAAATTATCCA - 23040
       - *  Y  F  L  L  N  F  *  M  H  R  P  R  F  V  D  Q  N  Y  P
       -  S  T  F  F  *  T  F  K  C  T  G  H  G  L  W  T  K  I  I  H
       -    V  L  S  F  E  L  L  N  A  P  A  T  V  C  G  P  K  L  S  T
23041 - CTGACCTTATTAAGAACCAGTGTGTCAATTTTAATTTTAATGGACTCACTGGTACTGGTG - 23100
       - L  T  L  L  R  T  S  V  S  I  L  I  L  M  D  S  L  V  L  V
       -  *  P  Y  *  E  P  V  C  Q  F  *  F  *  W  T  H  W  Y  W  C
       -    D  L  I  K  N  Q  C  V  N  F  N  F  N  G  L  T  G  T  G  V
23101 - TGTTAACTCCTTCTTCAAAGAGATTTCAACCATTTCAACAATTTGGCCGTGATGTTTCTG - 23160
       - C  *  L  L  L  Q  R  D  F  N  H  F  N  N  L  A  V  M  F  L
       -  V  N  S  F  F  K  E  I  S  T  I  S  T  I  W  P  *  C  F  *
       -    L  T  P  S  S  K  R  F  Q  P  F  Q  Q  F  G  R  D  V  S  D
23161 - ATTTCACTGATTCCGTTCGAGATCCTAAAACATCTGAAATATTAGACATTTCACCTTGCT - 23220
       - I  S  L  I  P  F  E  I  L  K  H  L  K  Y  *  T  F  H  L  A
       -  F  H  *  F  R  S  R  S  *  N  I  *  N  I  R  H  F  T  L  L
       -    F  T  D  S  V  R  D  P  K  T  S  E  I  L  D  I  S  P  C  S
23221 - CTTTTGGGGGTGTAAGTGTAATTACACCTGGAACAAATGCTTCATCTGAAGTTGCTGTTC - 23280
       - L  L  G  V  *  V  *  L  H  L  E  Q  M  L  H  L  K  L  L  F
       -  F  W  G  C  K  C  N  Y  T  W  N  K  C  F  I  *  S  C  C  S
       -    F  G  G  V  S  V  I  T  P  G  T  N  A  S  S  E  V  A  V  L
23281 - TATATCAAGATGTTAACTGCACTGATGTTTCTACAGCAATTCATGCAGATCAACTCACAC - 23340
       - Y  I  K  M  L  T  A  L  M  F  L  Q  Q  F  M  Q  I  N  S  H
       -  I  S  R  C  *  L  H  *  C  F  Y  S  N  S  C  R  S  T  H  T
       -    Y  Q  D  V  N  C  T  D  V  S  T  A  I  H  A  D  Q  L  T  P
23341 - CAGCTTGGCGCATATATTCTACTGGAAACAATGTATTCCAGACTCAAGCAGGCTGTCTTA - 23400
       - Q  L  G  A  Y  I  L  L  E  T  M  Y  S  R  L  K  Q  A  V  L
       -  S  L  A  H  I  F  Y  W  K  Q  C  I  P  D  S  S  R  L  S  Y
       -    A  W  R  I  Y  S  T  G  N  N  V  F  Q  T  Q  A  G  C  L  I
23401 - TAGGAGCTGAGCATGTCGACACTTCTTATGAGTGCGACATTCCTATTGGAGCTGGCATTT - 23460
       - *  E  L  S  M  S  T  L  L  M  S  A  T  F  L  L  E  L  A  F
       -  R  S  *  A  C  R  H  F  L  *  V  R  H  S  Y  W  S  W  H  L
       -    G  A  E  H  V  D  T  S  Y  E  C  D  I  P  I  G  A  G  I  C
23461 - GTGCTAGTTACCATACAGTTTCTTTATTACGTAGTACTAGCCAAAAATCTATTGTGGCTT - 23520
       - V  L  V  T  I  Q  F  L  Y  Y  V  V  L  A  K  N  L  L  W  L
       -  C  *  L  P  Y  S  F  F  I  T  *  Y  *  P  K  I  Y  C  G  L
       -    A  S  Y  H  T  V  S  L  L  R  S  T  S  Q  K  S  I  V  A  Y
```

FIG. 11 Con't

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23521 - ATACTATGTCTTTAGGTGCTGATAGTTCAATTGCTTACTCTAATAACACCATTGCTATAC - 23580
       - I  L  C  L  *  V  L  I  V  Q  L  L  T  L  I  T  P  L  L  Y
       - Y  Y  V  F  R  C  *  *  F  N  C  L  L  *  *  H  H  C  Y  T
       - T  M  S  L  G  A  D  S  S  I  A  Y  S  N  N  T  I  A  I  P
23581 - CTACTAACTTTTCAATTAGCATTACTACAGAAGTAATGCCTGTTTCTATGGCTAAAACCT - 23640
       - L  L  T  F  Q  L  A  L  L  Q  K  *  C  L  F  L  W  L  K  P
       - Y  *  L  F  N  *  H  Y  Y  R  S  N  A  C  F  Y  G  *  N  L
       - T  N  F  S  I  S  I  T  T  E  V  M  P  V  S  M  A  K  T  S
23641 - CCGTAGATTGTAATATGTACATCTGCGGAGATTCTACTGAATGTGCTAATTTGCTTCTCC - 23700
       - P  *  I  V  I  C  T  S  A  E  I  L  L  N  V  L  I  C  F  S
       - R  R  L  *  Y  V  H  L  R  R  F  Y  *  M  C  *  F  A  S  P
       - V  D  C  N  M  Y  I  C  G  D  S  T  E  C  A  N  L  L  L  Q
23701 - AATATGGTAGCTTTTGCACACAACTAAATCGTGCACTCTCAGGTATTGCTGCTGAACAGG - 23760
       - N  M  V  A  F  A  H  N  *  I  V  H  S  Q  V  L  L  L  N  R
       - I  W  *  L  L  H  T  T  K  S  C  T  L  R  Y  C  C  *  T  G
       - Y  G  S  F  C  T  Q  L  N  R  A  L  S  G  I  A  A  E  Q  D
23761 - ATCGCAACACACGTGAAGTGTTCGCTCAAGTCAAACAAATGTACAAAACCCCAACTTTGA - 23820
       - I  A  T  H  V  K  C  S  L  K  S  N  K  C  T  K  P  Q  L  *
       - S  Q  H  T  *  S  V  R  S  S  Q  T  N  V  Q  N  P  N  F  E
       - R  N  T  R  E  V  F  A  Q  V  K  Q  M  Y  K  T  P  T  L  K
23821 - AATATTTTGGTGGTTTTAATTTTTCACAAATATTACCTGACCCTCTAAAGCCAACTAAGA - 23880
       - N  I  L  V  V  L  I  F  H  K  Y  Y  L  T  L  *  S  Q  L  R
       - I  F  W  W  F  *  F  F  T  N  I  T  *  P  S  K  A  N  *  E
       - Y  F  G  G  F  N  F  S  Q  I  L  P  D  P  L  K  P  T  K  R
23881 - GGTCTTTTATTGAGGACTTGCTCTTTAATAAGGTGACACTCGCTGATGCTGGCTTCATGA - 23940
       - G  L  L  L  R  T  C  S  L  I  R  *  H  S  L  M  L  A  S  *
       - V  F  Y  *  G  L  A  L  *  *  G  D  T  R  *  C  W  L  H  E
       - S  F  I  E  D  L  L  F  N  K  V  T  L  A  D  A  G  F  M  K
23941 - AGCAATATGGCGAATGCCTAGGTGATATTAATGCTAGAGATCTCATTTGTGCGCAGAAGT - 24000
       - S  N  M  A  N  A  *  V  I  L  M  L  E  I  S  F  V  R  R  S
       - A  I  W  R  M  P  R  *  Y  *  C  *  R  S  H  L  C  A  E  V
       - Q  Y  G  E  C  L  G  D  I  N  A  R  D  L  I  C  A  Q  K  F
24001 - TCAATGGACTTACAGTGTTGCCACCTCTGCTCACTGATGATATGATTGCTGCCTACACTG - 24060
       - S  M  D  L  Q  C  C  H  L  C  S  L  M  I  *  L  L  P  T  L
       - Q  W  T  Y  S  V  A  T  S  A  H  *  *  Y  D  C  C  L  H  C
       - N  G  L  T  V  L  P  P  L  L  T  D  D  M  I  A  A  Y  T  A
24061 - CTGCTCTAGTTAGTGGTACTGCCACTGCTGGATGGACATTTGGTGCTGGCGCTGCTCTTC - 24120
       - L  L  *  L  V  V  L  P  L  L  D  G  H  L  V  L  A  L  L  F
       - C  S  S  *  W  Y  C  H  C  W  M  D  I  W  C  W  R  C  S  S
       - A  L  V  S  G  T  A  T  A  G  W  T  F  G  A  G  A  A  L  Q
24121 - AAATACCTTTTGCTATGCAAATGGCATATAGGTTCAATGGCATTGGAGTTACCCAAAATG - 24180
       - K  Y  L  L  L  C  K  W  H  I  G  S  M  A  L  E  L  P  K  M
       - N  T  F  C  Y  A  N  G  I  *  V  Q  W  H  W  S  Y  P  K  C
       - I  P  F  A  M  Q  M  A  Y  R  F  N  G  I  G  V  T  Q  N  V
24181 - TTCTCTATGAGAACCAAAAACAAATCGCCAACCAATTTAACAAGGCGATTAGTCAAATTC - 24240
       - F  S  M  R  T  K  N  K  S  P  T  N  L  T  R  R  L  V  K  F
       - S  L  *  E  P  K  T  N  R  Q  P  I  *  Q  G  D  *  S  N  S
       - L  Y  E  N  Q  K  Q  I  A  N  Q  F  N  K  A  I  S  Q  I  Q
24241 - AAGAATCACTTACAACAACATCAACTGCATTGGGCAAGCTGCAAGACGTTGTTAACCAGA - 24300
       - K  N  H  L  Q  Q  H  Q  L  H  W  A  S  C  K  T  L  L  T  R
       - R  I  T  Y  N  N  I  N  C  I  G  Q  A  A  R  R  C  *  P  E
       - E  S  L  T  T  T  S  T  A  L  G  K  L  Q  D  V  V  N  Q  N
24301 - ATGCTCAAGCATTAAACACACTTGTTAAACAACTTAGCTCTAATTTTGGTGCAATTTCAA - 24360
       - M  L  K  H  *  T  H  L  L  N  N  L  A  L  I  L  V  Q  F  Q
       - C  S  S  I  K  H  T  C  *  T  T  *  L  *  F  W  C  N  F  K
       - A  Q  A  L  N  T  L  V  K  Q  L  S  S  N  F  G  A  I  S  S
```

FIG. 11 Con't

```
24361 - GTGTGCTAAATGATATCCTTTCGCGACTTGATAAAGTCGAGGCGGAGGTACAAATTGACA - 24420
       - V  C  *  M  I  S  F  R  D  L  I  K  S  R  R  R  Y  K  L  T
       - C  A  K  *  Y  P  F  A  T  *  *  S  R  G  G  G  T  N  *  Q
       - V  L  N  D  I  L  S  R  L  D  K  V  E  A  E  V  Q  I  D  R
24421 - GGTTAATTACAGGCAGACTTCAAAGCCTTCAAACCTATGTAACACAACAACTAATCAGGG - 24480
       - G  *  L  Q  A  D  F  K  A  F  K  P  M  *  H  N  N  *  S  G
       - V  N  Y  R  Q  T  S  K  P  S  N  L  C  N  T  T  T  N  Q  G
       - L  I  T  G  R  L  Q  S  L  Q  T  Y  V  T  Q  Q  L  I  R  A
24481 - CTGCTGAAATCAGGGCTTCTGCTAATCTTGCTGCTACTAAATGTCTGAGTGTGTTCTTG - 24540
       - L  L  K  S  G  L  L  L  I  L  L  L  L  K  C  L  S  V  F  L
       - C  *  N  Q  G  F  C  *  S  C  C  Y  *  N  V  *  V  C  S  W
       - A  E  I  R  A  S  A  N  L  A  A  T  K  M  S  E  C  V  L  G
24541 - GACAATCAAAAAGAGTTGACTTTTGTGGAAAGGGCTACCACCTTATGTCCTTCCCACAAG - 24600
       - D  N  Q  K  E  L  T  F  V  E  R  A  T  T  L  C  P  S  H  K
       - T  I  K  K  S  *  L  L  W  K  G  L  P  P  Y  V  L  P  T  S
       - Q  S  K  R  V  D  F  C  G  K  G  Y  H  L  M  S  F  P  Q  A
24601 - CAGCCCCGCATGGTGTTGTCTTCCTACATGTCACGTATGTGCCATCCCAGGAGAGGAACT - 24660
       - Q  P  R  M  V  L  S  S  Y  M  S  R  M  C  H  P  R  R  G  T
       - S  P  A  W  C  C  L  P  T  C  H  V  C  A  I  P  G  E  E  L
       - A  P  H  G  V  V  F  L  H  V  T  Y  V  P  S  Q  E  R  N  F
24661 - TCACCACAGCGCCAGCAATTTGTCATGAAGGCAAAGCATACTTCCCTCGTGAAGGTGTTT - 24720
       - S  P  Q  R  Q  Q  F  V  M  K  A  K  H  T  S  L  V  K  V  F
       - H  H  S  A  S  N  L  S  *  R  Q  S  I  L  P  S  *  R  C  F
       - T  T  A  P  A  I  C  H  E  G  K  A  Y  F  P  R  E  G  V  F
24721 - TTGTGTTTAATGGCACTTCTTGGTTTATTACACAGAGGAACTTCTTTTCTCCACAAATAA - 24780
       - L  C  L  M  A  L  L  G  L  L  H  R  G  T  S  F  L  H  K  *
       - C  V  *  W  H  F  L  V  Y  Y  T  E  E  L  L  F  S  T  N  N
       - V  F  N  G  T  S  W  F  I  T  Q  R  N  F  F  S  P  Q  I  I
24781 - TTACTACAGACAATACATTTGTCTCAGGAAATTGTGATGTCGTTATTGGCATCATTAACA - 24840
       - L  L  Q  T  I  H  L  S  Q  E  I  V  M  S  L  L  A  S  L  T
       - Y  Y  R  Q  Y  I  C  L  R  K  L  *  C  R  Y  W  H  H  *  Q
       - T  T  D  N  T  F  V  S  G  N  C  D  V  V  I  G  I  I  N  N
24841 - ACACAGTTTATGATCCTCTGCAACCTGAGCTTGACTCATTCAAAGAAGAGCTGGACAAGT - 24900
       - T  Q  F  M  I  L  C  N  L  S  L  T  H  S  K  K  S  W  T  S
       - H  S  L  *  S  S  A  T  *  A  *  L  I  Q  R  R  A  G  Q  V
       - T  V  Y  D  P  L  Q  P  E  L  D  S  F  K  E  E  L  D  K  Y
24901 - ACTTCAAAAATCATACATCACCAGATGTTGATCTTGGCGACATTTCAGGCATTAACGCTT - 24960
       - T  S  K  I  I  H  H  Q  M  L  I  L  A  T  F  Q  A  L  T  L
       - L  Q  K  S  Y  I  T  R  C  *  S  W  R  H  F  R  H  *  R  F
       - F  K  N  H  T  S  P  D  V  D  L  G  D  I  S  G  I  N  A  S
24961 - CTGTCGTCAACATTCAAAAAGAAATTGACCGCCTCAATGAGGTCGCTAAAAATTTAAATG - 25020
       - L  S  S  T  F  K  K  K  L  T  A  S  M  R  S  L  K  I  *  M
       - C  R  Q  H  S  K  R  N  *  P  P  Q  *  G  R  *  K  F  K  *
       - V  V  N  I  Q  K  E  I  D  R  L  N  E  V  A  K  N  L  N  E
25021 - AATCACTCATTGACCTTCAAGAATTGGGAAAATATGAGCAATATATTAAATGGCCTTGGT - 25080
       - N  H  S  L  T  F  K  N  W  E  N  M  S  N  I  L  N  G  L  G
       - I  T  H  *  P  S  R  I  G  K  I  *  A  I  Y  *  M  A  L  V
       - S  L  I  D  L  Q  E  L  G  K  Y  E  Q  Y  I  K  W  P  W  Y
25081 - ATGTTTGGCTCGGCTTCATTGCTGGACTAATTGCCATCGTCATGGTTACAATCTTGCTTT - 25140
       - M  F  G  S  A  S  L  L  D  *  L  P  S  S  W  L  Q  S  C  F
       - C  L  A  R  L  H  C  W  T  N  C  H  R  H  G  Y  N  L  A  L
       - V  W  L  G  F  I  A  G  L  I  A  I  V  M  V  T  I  L  L  C
25141 - GTTGCATGACTAGTTGTTGCAGTTGCCTCAAGGGTGCATGCTCTTGTGGTTCTTGCTGCA - 25200
       - V  A  *  L  V  V  A  V  A  S  R  V  H  A  L  V  V  L  A  A
       - L  H  D  *  L  L  Q  L  P  Q  G  C  M  L  L  W  F  L  L  Q
       - C  M  T  S  C  C  S  C  L  K  G  A  C  S  C  G  S  C  C  K
```

FIG. 11 Con't

```
25201 - AGTTTGATGAGGATGACTCTGAGCCAGTTCTCAAGGGTGTCAAATTACATTACACATAAA - 25260
       - S  L  M  R  M  T  L  S  Q  F  S  R  V  S  N  Y  I  T  H  K
       - V  *  *  G  *  L  *  A  S  S  Q  G  C  Q  I  T  L  H  I  N
       - F  D  E  D  D  S  E  P  V  L  K  G  V  K  L  H  Y  T  *  T
25261 - CGAACTTATGGATTTGTTTATGAGATTTTTTACTCTTGGATCAATTACTGCACAGCCAGT - 25320
       - R  T  Y  G  F  V  Y  E  I  F  Y  S  W  I  N  Y  C  T  A  S
       - E  L  M  D  L  F  M  R  F  F  T  L  G  S  I  T  A  Q  P  V
       - N  L  W  I  C  L  *  D  F  L  L  L  D  Q  L  L  H  S  Q  *
25321 - AAAAATTGACAATGCTTCTCCTGCAAGTACTGTTCATGCTACAGCAACGATACCGCTACA - 25380
       - K  N  *  Q  C  F  S  C  K  Y  C  S  C  Y  S  N  D  T  A  T
       - K  I  D  N  A  S  P  A  S  T  V  H  A  T  A  T  I  P  L  Q
       - K  L  T  M  L  L  L  Q  V  L  F  M  L  Q  Q  R  Y  R  Y  K
25381 - AGCCTCACTCCCTTTCGGATGGCTTGTTATTGGCGTTGCATTTCTTGCTGTTTTTCAGAG - 25440
       - S  L  T  P  F  R  M  A  C  Y  W  R  C  I  S  C  C  F  S  E
       - A  S  L  P  F  G  W  L  V  I  G  V  A  F  L  A  V  F  Q  S
       - P  H  S  L  S  D  G  L  L  L  A  L  H  F  L  L  F  F  R  A
25441 - CGCTACCAAAATAATTGCGCTCAATAAAGATGGCAGCTAGCCCTTTATAAGGGCTTCCA - 25500
       - R  Y  Q  N  N  C  A  Q  *  K  M  A  A  S  P  L  *  G  L  P
       - A  T  K  I  I  A  L  N  K  R  W  Q  L  A  L  Y  K  G  F  Q
       - L  P  K  *  L  R  S  I  K  D  G  S  *  P  F  I  R  A  S  S
25501 - GTTCATTTGCAATTTACTGCTGCTATTTGTTACCATCTATTCACATCTTTTGCTTGTCGC - 25560
       - V  H  L  Q  F  T  A  A  I  C  Y  H  L  F  T  S  F  A  C  R
       - F  I  C  N  L  L  L  L  F  V  T  I  Y  S  H  L  L  L  V  A
       - S  F  A  I  Y  C  C  Y  L  L  P  S  I  H  I  F  C  L  S  L
25561 - TGCAGGTAAGGAGGCGCAATTTTTGTACCTCTATGCCTTGATATATTTTCTACAATGCAT - 25620
       - C  R  *  G  G  A  I  F  V  P  L  C  L  D  I  F  S  T  M  H
       - A  G  K  E  A  Q  F  L  Y  L  Y  A  L  I  Y  F  L  Q  C  I
       - Q  V  R  R  R  N  F  C  T  S  M  P  *  Y  I  F  Y  N  A  S
25621 - CAACGCATGTAGAATTATTATGAGATGTTGGCTTTGTTGGAAGTGCAAATCCAAGAACCC - 25680
       - Q  R  M  *  N  Y  Y  E  M  L  A  L  L  E  V  Q  I  Q  E  P
       - N  A  C  R  I  I  M  R  C  W  L  C  W  K  C  K  S  K  N  P
       - T  H  V  E  L  L  *  D  V  G  F  V  G  S  A  N  P  R  T  H
25681 - ATTACTTTATGATGCCAACTACTTTGTTTGCTGGCACACACATAACTATGACTACTGTAT - 25740
       - I  T  L  *  C  Q  L  L  C  L  L  A  H  T  *  L  *  L  L  Y
       - L  L  Y  D  A  N  Y  F  V  C  W  H  T  H  N  Y  D  Y  C  I
       - Y  F  M  M  P  T  T  L  F  A  G  T  H  I  T  M  T  T  V  Y
25741 - ACCATATAACAGTGTCACAGATACAATTGTCGTTACTGAAGGTGACGGCATTTCAACACC - 25800
       - T  I  *  Q  C  H  R  Y  N  C  R  Y  *  R  *  R  H  F  N  T
       - P  Y  N  S  V  T  D  T  I  V  V  T  E  G  D  G  I  S  T  P
       - H  I  T  V  S  Q  I  Q  L  S  L  L  K  V  T  A  F  Q  H  Q
25801 - AAAACTCAAAGAAGACTACCAAATTGGTGGTTATTCTGAGGATAGGCACTCAGGTGTTAA - 25860
       - K  T  Q  R  R  L  P  N  W  W  L  F  *  G  *  A  L  R  C  *
       - K  L  K  E  D  Y  Q  I  G  G  Y  S  E  D  R  H  S  G  V  K
       - N  S  K  K  T  T  K  L  V  V  I  L  R  I  G  T  Q  V  L  K
25861 - AGACTATGTCGTTGTACATGGCTATTTCACCGAAGTTTACTACCAGCTTGAGTCTACACA - 25920
       - R  L  C  R  C  T  W  L  F  H  R  S  L  L  P  A  *  V  Y  T
       - D  Y  V  V  V  H  G  Y  F  T  E  V  Y  Y  Q  L  E  S  T  Q
       - T  M  S  L  Y  M  A  I  S  P  K  F  T  T  S  L  S  L  H  K
25921 - AATTACTACAGACACTGGTATTGAAAATGCTACATTCTTCATCTTTAACAAGCTTGTTAA - 25980
       - N  Y  Y  R  H  W  Y  *  K  C  Y  I  L  H  L  *  Q  A  C  *
       - I  T  T  D  T  G  I  E  N  A  T  F  F  I  F  N  K  L  V  K
       - L  L  Q  T  L  V  L  K  M  L  H  S  S  S  L  T  S  L  L  K
25981 - AGACCCACCGAATGTGCAAATACACACAATCGACGGCTCTTCAGGAGTTGCTAATCCAGC - 26040
       - R  P  T  E  C  A  N  T  H  N  R  R  L  F  R  S  C  *  S  S
       - D  P  P  N  V  Q  I  H  T  I  D  G  S  S  G  V  A  N  P  A
       - T  H  R  M  C  K  Y  T  Q  S  T  A  L  Q  E  L  L  I  Q  Q
```

FIG. 11 Con't

```
26041 -  AATGGATCCAATTTATGATGAGCCGACGACGACTACTAGCGTGCCTTTGTAAGCACAAGA  - 26100
       -  N  G  S  N  L  *  *  A  D  D  D  Y  *  R  A  F  V  S  T  R
       -   M  D  P  I  Y  D  E  P  T  T  T  T  S  V  P  L  *  A  Q  E
       -    W  I  Q  F  M  M  S  R  R  R  L  L  A  C  L  C  K  H  K  K
26101 -  AAGTGAGTACGAACTTATGTACTCATTCGTTTCGGAAGAAACAGGTACGTTAATAGTTAA  - 26160
       -  K  *  V  R  T  Y  V  L  I  R  F  G  R  N  R  Y  V  N  S  *
       -   S  E  Y  E  L  M  Y  S  F  V  S  E  E  T  G  T  L  I  V  N
       -    V  S  T  N  L  C  T  H  S  F  R  K  K  Q  V  R  *  *  L  I
26161 -  TAGCGTACTTCTTTTTCTTGCTTTCGTGGTATTCTTGCTAGTCACACTAGCCATCCTTAC  - 26220
       -  *  R  T  S  F  S  C  F  R  G  I  L  A  S  H  T  S  H  P  Y
       -   S  V  L  L  F  L  A  F  V  V  F  L  L  V  T  L  A  I  L  T
       -    A  Y  F  F  F  L  L  S  W  Y  S  C  *  S  H  *  P  S  L  L
26221 -  TGCGCTTCGATTGTGTGCGTACTGCTGCAATATTGTTAACGTGAGTTTAGTAAAACCAAC  - 26280
       -  C  A  S  I  V  C  V  L  L  Q  Y  C  *  R  E  F  S  K  T  N
       -   A  L  R  L  C  A  Y  C  C  N  I  V  N  V  S  L  V  K  P  T
       -    R  F  D  C  V  R  T  A  A  I  L  L  T  *  V  *  *  N  Q  R
26281 -  GGTTTACGTCTACTCGCGTGTTAAAAATCTGAACTCTTCTGAAGGAGTTCCTGATCTTCT  - 26340
       -  G  L  R  L  L  A  C  *  K  S  E  L  F  *  R  S  S  *  S  S
       -   V  Y  Y  V  Y  S  R  V  K  N  L  N  S  S  E  G  V  P  D  L  L
       -    F  T  S  T  R  V  L  K  I  *  T  L  L  K  E  F  L  I  F  W
26341 -  GGTCTAAACGAACTAACTATTATTATTATTCTGTTTGGAACTTTAACATTGCTTATCATG  - 26400
       -  G  L  N  E  L  T  I  I  I  I  L  F  G  T  L  T  L  L  I  M
       -   V  *  T  N  *  L  L  L  L  F  C  L  E  L  *  H  C  L  S  W
       -    S  K  R  T  N  Y  Y  Y  Y  S  V  W  N  F  N  I  A  Y  H  G
26401 -  GCAGACAACGGTACTATTACCGTTGAGGAGCTTAAACAACTCCTGGAACAATGGAACCTA  - 26460
       -  A  D  N  G  T  I  T  V  E  E  L  K  Q  L  L  E  Q  W  N  L
       -   Q  T  T  V  L  L  P  L  R  S  L  N  N  S  W  N  N  G  T  *
       -    R  Q  R  Y  Y  Y  R  *  G  A  *  T  T  P  G  T  M  E  P  S
26461 -  GTAATAGGTTTCCTATTCCTAGCCTGGATTATGTTACTACAATTTGCCTATTCTAATCGG  - 26520
       -  V  I  G  F  L  F  L  A  W  I  M  L  L  Q  F  A  Y  S  N  R
       -   *  *  V  S  Y  S  *  P  G  L  C  Y  Y  N  L  P  I  L  I  G
       -    N  R  F  P  I  P  S  L  D  Y  V  T  T  I  C  L  F  *  S  E
26521 -  AACAGGTTTTTGTACATAATAAAGCTTGTTTTCCTCTGGCTCTTGTGGCCAGTAACACTT  - 26580
       -  N  R  F  L  Y  I  I  K  L  V  F  L  W  L  L  W  P  V  T  L
       -   T  G  F  C  T  *  *  S  L  F  S  S  G  S  C  G  Q  *  H  L
       -    Q  V  F  V  H  N  K  A  C  F  P  L  A  L  V  A  S  N  T  C
26581 -  GCTTGTTTTGTGCTTGCTGTTGTCTACAGAATTAATTGGGTGACTGGCGGGATTGCGATT  - 26640
       -  A  C  F  V  L  A  V  V  Y  R  I  N  W  V  T  G  G  I  A  I
       -   L  V  L  C  L  L  L  S  T  E  L  I  G  *  L  A  G  L  R  L
       -    L  F  C  A  C  C  C  L  Q  N  *  L  G  D  W  R  D  C  D  C
26641 -  GCAATGGCTTGTATTGTAGGCTTGATGTGGCTTAGCTACTTCGTTGCTTCCTTCAGGCTG  - 26700
       -  A  M  A  C  I  V  G  L  M  W  L  S  Y  F  V  A  S  F  R  L
       -   Q  W  L  V  L  *  A  *  C  G  L  A  T  S  L  L  P  S  G  C
       -    N  G  L  Y  C  R  L  D  V  A  *  L  L  R  C  F  L  Q  A  V
26701 -  TTTGCTCGTACCCGCTCAATGTGGTCATTCAACCCAGAAACAAACATTCTTCTCAATGTG  - 26760
       -  F  A  R  T  R  S  M  W  S  F  N  P  E  T  N  I  L  L  N  V
       -   L  L  V  P  A  Q  C  G  H  S  T  Q  K  Q  T  F  F  S  M  C
       -    C  S  Y  P  L  N  V  V  I  Q  P  R  N  K  H  S  S  Q  C  A
26761 -  CCTCTCCGGGGGACAATTGTGACCAGACCGCTCATGGAAAGTGAACTTGTCATTGGTGCT  - 26820
       -  P  L  R  G  T  I  V  T  R  P  L  M  E  S  E  L  V  I  G  A
       -   L  S  G  G  Q  L  *  P  D  R  S  W  K  V  N  L  S  L  V  L
       -    S  P  G  D  N  C  D  Q  T  A  H  G  K  *  T  C  H  W  C  C
26821 -  GTGATCATTCGTGGTCACTTGCGAATGGCCGGACACTCCCTAGGGCGCTGTGACATTAAG  - 26880
       -  V  I  I  R  G  H  L  R  M  A  G  H  S  L  G  R  C  D  I  K
       -   *  S  F  V  V  T  C  E  W  P  D  T  P  *  G  A  V  T  L  R
       -    D  H  S  W  S  L  A  N  G  R  T  L  P  R  A  L  *  H  *  G
```

FIG. 11 Con't

```
26881 - GACCTGCCAAAAGAGATCACTGTGGCTACATCACGAACGCTTTCTTATTACAAATTAGGA - 26940
      - D  L  P  K  E  I  T  V  A  T  S  R  T  L  S  Y  Y  K  L  G
      - T  C  Q  K  R  S  L  W  L  H  H  E  R  F  L  I  T  N  *  E
      -  P  A  K  R  D  H  C  G  Y  I  T  N  A  F  L  L  Q  I  R  S
26941 - GCGTCGCAGCGTGTAGGCACTGATTCAGGTTTTGCTGCATACAACCGCTACCGTATTGGA - 27000
      - A  S  Q  R  V  G  T  D  S  G  F  A  A  Y  N  R  Y  R  I  G
      - R  R  S  V  *  A  L  I  Q  V  L  L  H  T  T  A  T  V  L  E
      -  V  A  A  C  R  H  *  F  R  F  C  C  I  Q  P  L  P  Y  W  K
27001 - AACTATAAATTAAATACAGACCACGCCGGTAGCAACGACAATATTGCTTTGCTAGTACAG - 27060
      - N  Y  K  L  N  T  D  H  A  G  S  N  D  N  I  A  L  L  V  Q
      - T  I  N  *  I  Q  T  T  P  V  A  T  T  I  L  L  C  *  Y  S
      -  L  *  I  K  Y  R  P  R  R  *  Q  R  Q  Y  C  F  A  S  T  V
27061 - TAAGTGACAACAGATGTTTCATCTTGTTGACTTCCAGGTTACAATAGCAGAGATATTGAT - 27120
      - *  V  T  T  D  V  S  S  C  *  L  P  G  Y  N  S  R  D  I  D
      - K  *  Q  Q  M  F  H  L  V  D  F  Q  V  T  I  A  E  I  L  I
      -  S  D  N  R  C  F  I  L  L  T  S  R  L  Q  *  Q  R  Y  *  L
27121 - TATCATTATGAGGACTTTCAGGATTGCTATTTGGAATCTTGACGTTATAATAAGTTCAAT - 27180
      - Y  H  Y  E  D  F  Q  D  C  Y  L  E  S  *  R  Y  N  K  F  N
      - I  I  M  R  T  F  R  I  A  I  W  N  L  D  V  I  I  S  S  I
      -  S  L  *  G  L  S  G  L  L  F  G  I  L  T  L  *  *  V  Q  *
27181 - AGTGAGACAATTATTTAAGCCTCTAACTAAGAAGAATTATTCGGAGTTAGATGATGAAGA - 27240
      - S  E  T  I  I  *  A  S  N  *  E  E  L  F  G  V  R  *  *  R
      - V  R  Q  L  F  K  P  L  T  K  K  N  Y  S  E  L  D  D  E  E
      -  *  D  N  Y  L  S  L  *  L  R  R  I  I  R  S  *  M  M  K  N
27241 - ACCTATGGAGTTAGATTATCCATAAAACGAACATGAAAATTATTCTTCCTGACATTGA - 27300
      - T  Y  G  V  R  L  S  I  K  R  T  *  K  L  F  S  S  *  H  *
      - P  M  E  L  D  Y  P  *  N  E  H  E  N  Y  S  L  P  D  I  D
      -  L  W  S  *  I  I  H  K  T  N  M  K  I  I  L  F  L  T  L  I
27301 - TTGTATTTACATCTTGCGAGCTATATCACTATCAGGAGTGTGTTAGAGGTACGACTGTAC - 27360
      - L  Y  L  H  L  A  S  Y  I  T  I  R  S  V  L  E  V  R  L  Y
      - C  I  Y  I  L  R  A  I  S  L  S  G  V  C  *  R  Y  D  C  T
      -  V  F  T  S  C  E  L  Y  H  Y  Q  E  C  V  R  G  T  T  V  L
27361 - TACTAAAAGAACCTTGCCCATCAGGAACATACGAGGGCAATTCACCATTTCACCCTCTTG - 27420
      - Y  *  K  N  L  A  H  Q  E  H  T  R  A  I  H  H  F  T  L  L
      - T  K  R  T  L  P  I  R  N  I  R  G  Q  F  T  I  S  P  S  C
      -  L  K  E  P  C  P  S  G  T  Y  E  G  N  S  P  F  H  P  L  A
27421 - CTGACAATAAATTTGCACTAACTTGCACTAGCACACACTTTGCTTTTGCTTGTGCTGACG - 27480
      - L  T  I  N  L  H  *  L  A  L  A  H  T  L  L  L  L  V  L  T
      - *  Q  *  I  C  T  N  L  H  *  H  T  L  C  F  C  L  C  *  R
      -  D  N  K  F  A  L  T  C  T  S  T  H  F  A  F  A  C  A  D  G
27481 - GTACTCGACATACCTATCAGCTGCGTGCAAGATCAGTTTCACCAAAACTTTTCATCAGAC - 27540
      - V  L  D  I  P  I  S  C  V  Q  D  Q  F  H  Q  N  F  S  S  D
      - Y  S  T  Y  L  S  A  A  C  K  I  S  F  T  K  T  F  H  Q  T
      -  T  R  H  T  Y  Q  L  R  A  R  S  V  S  P  K  L  F  I  R  Q
27541 - AAGAGGAGGTTCAACAAGAGCTCTACTCGCCACTTTTTCTCATTGTTGCTGCTCTAGTAT - 27600
      - K  R  R  F  N  K  S  S  T  R  H  F  F  S  L  L  L  L  *  Y
      - R  G  G  S  T  R  A  L  L  A  T  F  S  H  C  C  C  S  S  I
      -  E  E  V  Q  Q  E  L  Y  S  P  L  F  L  I  V  A  A  L  V  F
27601 - TTTTAATACTTTGCTTCACCATTAAGAGAAAGACAGAATGAATGAGCTCACTTTAATTGA - 27660
      - F  *  Y  F  A  S  P  L  R  E  R  Q  N  E  *  A  H  F  N  *
      - F  N  T  L  L  H  H  *  E  K  D  R  M  N  E  L  T  L  I  D
      -  L  I  L  C  F  T  I  K  R  K  T  E  *  M  S  S  L  *  L  T
27661 - CTTCTATTTGTGCTTTTTAGCCTTTCTGCTATTCCTTGTTTTAATAATGCTTATTATATT - 27720
      - L  L  F  V  L  F  S  L  S  A  I  P  C  F  N  N  A  Y  Y  I
      - F  Y  L  C  F  L  A  F  L  L  F  L  V  L  I  M  L  I  I  F
      -  S  I  C  A  F  *  P  F  C  Y  S  L  F  *  *  C  L  L  Y  F
```

FIG. 11 Con't

```
27721 - TTGGTTTTCACTCGAAATCCAGGATCTAGAAGAACCTTGTACCAAAGTCTAAACGAACAT - 27780
       - L  V  F  T  R  N  P  G  S  R  R  T  L  Y  Q  S  L  N  E  H
       - W  F  S  L  E  I  Q  D  L  E  E  P  C  T  K  V  *  T  N  M
       - G  F  H  S  K  S  R  I  *  K  N  L  V  P  K  S  K  R  T  *
27781 - GAAACTTCTCATTGTTTTGACTTGTATTTCTCTATGCAGTTGCATATGCACTGTAGTACA - 27840
       - E  T  S  H  C  F  D  L  Y  F  S  M  Q  L  H  M  H  C  S  T
       - K  L  L  I  V  L  T  C  I  S  L  C  S  I  C  T  V  V  Q
       - N  F  S  L  F  *  L  V  F  L  Y  A  V  A  Y  A  L  *  Y  S
27841 - GCGCTGTGCATCTAATAAACCTCATGTGCTTGAAGATCCTTGTAAGGTACAACACTAGGG - 27900
       - A  L  C  I  *  *  T  S  C  A  *  R  S  L  *  G  T  T  L  G
       - R  C  A  S  N  K  P  H  V  L  E  D  P  C  K  V  Q  H  *  G
       - A  V  H  L  I  N  L  M  C  L  K  I  L  V  R  Y  N  T  R  G
27901 - GTAATACTTATAGCACTGCTTGGCTTTGTGCTCTAGGAAAGGTTTTACCTTTTCATAGAT - 27960
       - V  I  L  I  A  L  L  G  F  V  L  *  E  R  F  Y  L  F  I  D
       - *  Y  L  *  H  C  L  A  L  C  S  R  K  G  F  T  F  S  *  M
       - N  T  Y  S  T  A  W  L  C  A  L  G  K  V  L  P  F  H  R  W
27961 - GGCACACTATGGTTCAAACATGCACACCTAATGTTACTATCAACTGTCAAGATCCAGCTG - 28020
       - G  T  L  W  F  K  H  A  H  L  M  L  L  S  T  V  K  I  Q  L
       - A  H  Y  G  S  N  M  H  T  *  C  Y  Y  Q  L  S´ R  S  S  W
       - H  T  M  V  Q  T  C  T  P  N  V  T  I  N  C  Q  D  P  A  G
28021 - GTGGTGCGCTTATAGCTAGGTGTTGGTACCTTCATGAAGGTCACCAAACTGCTGCATTTA - 28080
       - V  V  R  L  *  L  G  V  G  T  F  M  K  V  T  K  L  L  H  L
       - W  C  A  Y  S  *  V  L  V  P  S  *  R  S  P  N  C  C  I  *
       - G  A  L  I  A  R  C  W  Y  L  H  E  G  H  Q  T  A  A  F  R
28081 - GAGACGTACTTGTTGTTTTAAATAAACGAACAAATTAAAATGTCTGATAATGGACCCCAA - 28140
       - E  T  Y  L  L  F  *  I  N  E  Q  I  K  M  S  D  N  G  P  Q
       - R  R  T  C  C  F  K  *  T  N  K  L  K  C  L  I  M  D  P  N
       - D  V  L  V  V  L  N  K  R  T  N  *  N  V  *  *  W  T  P  I
28141 - TCAAACCAACGTAGTGCCCCCCGCATTACATTTGGTGGACCCACAGATTCAACTGACAAT - 28200
       - S  N  Q  R  S  A  P  R  I  T  F  G  G  P  T  D  S  T  D  N
       - Q  T  N  V  V  P  P  A  L  H  L  V  D  P  Q  I  Q  L  T  I
       - K  P  T  *  C  P  P  H  Y  I  W  W  T  H  R  F  N  *  Q  *
28201 - AACCAGAATGGAGGACGCAATGGGGCAAGGCCAAAACAGCGCCGACCCCAAGGTTTACCC - 28260
       - N  Q  N  G  G  R  N  G  A  R  P  K  Q  R  R  P  Q  G  L  P
       - T  R  M  E  D  A  M  G  Q  G  Q  N  S  A  D  P  K  V  Y  P
       - P  E  W  R  T  Q  W  G  K  A  K  T  A  P  T  P  R  F  T  Q
28261 - AATAATACTGCGTCTTGGTTCACAGCTCTCACTCAGCATGGCAAGGAGGAACTTAGATTC - 28320
       - N  N  T  A  S  W  F  T  A  L  T  Q  H  G  K  E  E  L  R  F
       - I  I  L  R  L  G  S  Q  L  S  L  S  M  A  R  R  N  L  D  S
       - *  Y  C  V  L  V  H  S  S  H  S  A  W  Q  G  G  T  *  I  P
28321 - CCTCGAGGCCAGGGCGTTCCAATCAACACCAATAGTGGTCCAGATGACCAAATTGGCTAC - 28380
       - P  R  G  Q  G  V  P  I  N  T  N  S  G  P  D  D  Q  I  G  Y
       - L  E  A  R  A  F  Q  S  T  P  I  V  V  Q  M  T  K  L  A  T
       - S  R  P  G  R  S  N  Q  H  Q  *  W  S  R  *  P  N  W  L  L
28381 - TACCGAAGAGCTACCCGACGAGTTCGTGGTGGTGACGGCAAAATGAAAGAGCTCAGCCCC - 28440
       - Y  R  R  A  T  R  R  V  R  G  G  D  G  K  M  K  E  L  S  P
       - T  E  E  L  P  D  E  F  V  V  V  T  A  K  *  K  S  S  A  P
       - P  K  S  Y  P  T  S  S  W  W  *  R  Q  N  E  R  A  Q  P  Q
28441 - AGATGGTACTTCTATTACCTAGGAACTGGCCCAGAAGCTTCACTTCCCTACGGCGCTAAC - 28500
       - R  W  Y  F  Y  Y  L  G  T  G  P  E  A  S  L  P  Y  G  A  N
       - D  G  T  S  I  T  *  E  L  A  Q  K  L  H  F  P  T  A  L  T
       - M  V  L  L  L  P  R  N  W  P  R  S  F  T  S  L  R  R  *  Q
28501 - AAAGAAGGCATCGTATGGGTTGCAACTGAGGGAGCCTTGAATACACCCAAAGACCACATT - 28560
       - K  E  G  I  V  W  V  A  T  E  G  A  L  N  T  P  K  D  H  I
       - K  K  A  S  Y  G  L  Q  L  R  E  P  *  I  H  P  K  T  T  L
       - R  R  H  R  M  G  C  N  *  G  S  L  E  Y  T  Q  R  P  H  W
```

FIG. 11 Con't

```
28561 - GGCACCCGCAATCCTAATAACAATGCTGCCACCGTGCTACAACTTCCTCAAGGAACAACA - 28620
       - G  T  R  N  P  N  N  N  A  A  T  V  L  Q  L  P  Q  G  T  T
       - A  P  A  I  L  I  T  M  L  P  P  C  Y  N  F  L  K  E  Q  H
       - H  P  Q  S  *  *  Q  C  C  H  R  A  T  T  S  S  R  N  N  I
28621 - TTGCCAAAAGGCTTCTACGCAGAGGGAAGCAGAGGCGGCAGTCAAGCCTCTTCTCGCTCC - 28680
       - L  P  K  G  F  Y  A  E  G  S  R  G  G  S  Q  A  S  S  R  S
       - C  Q  K  A  S  T  Q  R  E  A  E  A  A  V  K  P  L  L  A  P
       - A  K  R  L  L  R  R  R  G  K  Q  R  R  Q  S  S  L  F  S  L  L
28681 - TCATCACGTAGTCGCGGTAATTCAAGAAATTCAACTCCTGGCAGCAGTAGGGGAAATTCT - 28740
       - S  S  R  S  R  G  N  S  R  N  S  T  P  G  S  S  R  G  N  S
       - H  H  V  V  A  V  I  Q  E  I  Q  L  L  A  A  V  G  E  I  L
       - I  T  *  S  R  *  F  K  K  F  N  S  W  Q  Q  *  G  K  F  S
28741 - CCTGCTCGAATGGCTAGCGGAGGTGGTGAAACTGCCCTCGCGCTATTGCTGCTAGACAGA - 28800
       - P  A  R  M  A  S  G  G  G  E  T  A  L  A  L  L  L  L  D  R
       - L  L  E  W  L  A  E  V  V  K  L  P  S  R  Y  C  C  *  T  D
       - C  S  N  G  *  R  R  W  *  N  C  P  R  A  I  A  A  R  Q  I
28801 - TTGAACCAGCTTGAGAGCAAAGTTTCTGGTAAAGGCCAACAACAACAAGGCCAAACTGTC - 28860
       - L  N  Q  L  E  S  K  V  S  G  K  G  Q  Q  Q  Q  G  Q  T  V
       - *  T  S  L  R  A  K  F  L  V  K  A  N  N  N  K  A  K  L  S
       - E  P  A  *  E  Q  S  F  W  *  R  P  T  T  T  R  P  N  C  H
28861 - ACTAAGAAATCTGCTGCTGAGGCATCTAAAAAGCCTCGCCAAAAACGTACTGCCACAAAA - 28920
       - T  K  K  S  A  A  E  A  S  K  K  P  R  Q  K  R  T  A  T  K
       - L  R  N  L  L  L  R  H  L  K  S  L  A  K  N  V  L  P  Q  N
       - *  E  I  C  C  *  G  I  *  K  A  S  P  K  T  Y  C  H  K  T
28921 - CAGTACAACGTCACTCAAGCATTTGGGAGACGTGGTCCAGAACAAACCCAAGGAAATTTC - 28980
       - Q  Y  N  V  T  Q  A  F  G  R  R  G  P  E  Q  T  Q  G  N  F
       - S  T  T  S  L  K  H  L  G  D  V  V  Q  N  K  P  K  E  I  S
       - V  Q  R  H  S  S  I  W  E  T  W  S  R  T  N  P  R  K  F  R
28981 - GGGGACCAAGACCTAATCAGACAAGGAACTGATTACAAACATTGGCCGCAAATTGCACAA - 29040
       - G  D  Q  D  L  I  R  Q  G  T  D  Y  K  H  W  P  Q  I  A  Q
       - G  T  K  T  *  S  D  K  E  L  I  T  N  I  G  R  K  L  H  N
       - G  P  R  P  N  Q  T  R  N  *  L  Q  T  L  A  A  N  C  T  I
29041 - TTTGCTCCAAGTGCCTCTGCATTCTTTGGAATGTCACGCATTGGCATGGAAGTCACACCT - 29100
       - F  A  P  S  A  S  A  F  F  G  M  S  R  I  G  M  E  V  T  P
       - L  L  Q  V  P  L  H  S  L  E  C  H  A  L  A  W  K  S  H  L
       - C  S  K  C  L  C  I  L  W  N  V  T  H  W  H  G  S  H  T  F
29101 - TCGGGAACATGGCTGACTTATCATGGAGCCATTAAATTGGATGACAAAGATCCACAATTC - 29160
       - S  G  T  W  L  T  Y  H  G  A  I  K  L  D  D  K  D  P  Q  F
       - R  E  H  G  *  L  I  M  E  P  L  N  W  M  T  K  I  H  N  S
       - G  N  M  A  D  L  S  W  S  H  *  I  G  *  Q  R  S  T  I  Q
29161 - AAAGACAACGTCATACTGCTGAACAAGCACATTGACGCATACAAAACATTCCCACCAACA - 29220
       - K  D  N  V  I  L  L  N  K  H  I  D  A  Y  K  T  F  P  P  T
       - K  T  T  S  Y  C  *  T  S  T  L  T  H  T  K  H  S  H  Q  Q
       - R  Q  R  H  T  A  E  Q  A  H  *  R  I  Q  N  I  P  T  N  R
29221 - GAGCCTAAAAAGGACAAAAAGAAAAGACTGATGAAGCTCAGCCTTTGCCGCAGAGACAA - 29280
       - E  P  K  K  D  K  K  K  T  D  E  A  Q  P  L  P  Q  R  Q
       - S  L  K  R  T  K  R  K  R  L  M  K  L  S  L  C  R  R  D  K
       - A  *  K  G  Q  K  E  K  D  *  *  S  S  A  F  A  A  E  T  K
29281 - AAGAAGCAGCCCACTGTGACTCTTCTTCCTGCGGCTGACATGGATGATTTCTCCAGACAA - 29340
       - K  K  Q  P  T  V  T  L  L  P  A  A  D  M  D  D  F  S  R  Q
       - R  S  S  P  L  *  L  F  F  L  R  L  T  W  M  I  S  P  D  N
       - E  A  A  H  C  D  S  S  S  C  G  *  H  G  *  F  L  Q  T  T
29341 - CTTCAAAATTCCATGAGTGGAGCTTCTGCTGATTCAACTCAGGCATAAACACTCATGATG - 29400
       - L  Q  N  S  M  S  G  A  S  A  D  S  T  Q  A  *  T  L  M  M
       - F  K  I  P  *  V  E  L  L  L  I  Q  L  R  H  K  H  S  *  *
       - S  K  F  H  E  W  S  F  C  *  F  N  S  G  I  N  T  H  D  D
```

FIG. 11 Con't

```
29401 - ACCACACAAGGCAGATGGGCTATGTAAACGTTTTCGCAATTCCGTTTACGATACATAGTC - 29460
      - T  T  Q  G  R  W  A  M  *  T  F  S  Q  F  R  L  R  Y  I  V
      - P  H  K  A  D  G  L  C  K  R  F  R  N  S  V  Y  D  T  *  S
      - H  T  R  Q  M  G  Y  V  N  V  F  A  I  P  F  T  I  H  S  L
29461 - TACTCTTGTGCAGAATGAATTCTCGTAACTAAACAGCACAAGTAGGTTTAGTTAACTTTA - 29520
      - Y  S  C  A  E  *  I  L  V  T  K  Q  H  K  *  V  *  L  T  L
      - T  L  V  Q  N  E  F  S  *  L  N  S  T  S  R  F  S  *  L  *
      - L  L  C  R  M  N  S  R  N  *  T  A  Q  V  G  L  V  N  F  N
29521 - ATCTCACATAGCAATCTTTAATCAATGTGTAACATTAGGGAGGACTTGAAAGAGCCACCA - 29580
      - I  S  H  S  N  L  *  S  M  C  N  I  R  E  D  L  K  E  P  P
      - S  H  I  A  I  F  N  Q  C  V  T  L  G  R  T  *  K  S  H  H
      - L  T  *  Q  S  L  I  N  V  *  H  *  G  G  L  E  R  A  T  T
29581 - CATTTTCATCGAGGCCACGCGGAGTACGATCGAGGGTACAGTGAATAATGCTAGGGAGAG - 29640
      - H  F  H  R  G  H  A  E  Y  D  R  G  Y  S  E  *  C  *  G  E
      - I  F  I  E  A  T  R  S  T  I  E  G  T  V  N  N  A  R  E  S
      - F  S  S  R  P  R  G  V  R  S  R  V  Q  *  I  M  L  G  R  A
29641 - CTGCCTATATGGAAGAGCCCTAATGTGTAAAATTAATTTTAGTAGTGCTATCCCCATGTG - 29700
      - L  P  I  W  K  S  P  N  V  *  N  *  F  *  *  C  Y  P  H  V
      - C  L  Y  G  R  A  L  M  C  K  I  N  F  S  S  A  I  P  M  *
      - A  Y  M  E  E  P  *  C  V  K  L  I  L  V  V  L  S  P  C  D
29701 - ATTTTAATAGCTTCTTAGGAGAATGACAAAAAAAAAAAAAAA    - 29742
      - I  L  I  A  S  *  E  N  D  K  K  K  K  K  X
      - F  *  *  L  L  R  R  M  T  K  K  K  K  X
      - F  N  S  F  L  G  E  *  Q  K  K  K  K  X
```

FIG. 11 Con't

```
  1 - TTTTTTTTTTTTTTTTGTCATTCTCCTAAGAAGCTATTAAAATCACATGGGGATAGCACTA -  60
    - F  F  F  F  F  V  I  L  L  R  S  Y  *  N  H  M  G  I  A  L
    -  F  F  F  F  L  S  F  S  *  E  A  I  K  I  T  W  G  *  H  Y
    -   F  F  F  F  C  H  S  P  K  K  L  L  K  S  H  G  D  S  T  T
 61 - CTAAAATTAATTTTACACATTAGGGCTCTTCCATATAGGCAGCTCTCCCTAGCATTATTC - 120
    - L  K  L  I  L  H  I  R  A  L  P  Y  R  Q  L  S  L  A  L  F
    -  *  N  *  F  Y  T  L  G  L  F  H  I  G  S  S  P  *  H  Y  S
    -   K  I  N  F  T  H  *  G  S  S  I  *  A  A  L  P  S  I  I  H
121 - ACTGTACCCTCGATCGTACTCCGCGTGGCCTCGATGAAAATGTGGTGGCTCTTTCAAGTC - 180
    - T  V  P  S  I  V  L  R  V  A  S  M  K  M  W  W  L  F  Q  V
    -  L  Y  P  R  S  Y  S  A  W  P  R  *  K  C  G  G  S  F  K  S
    -   C  T  L  D  R  T  P  R  G  L  D  E  N  V  V  A  L  S  S  P
181 - CTCCCTAATGTTACACATTGATTAAAGATTGCTATGTGAGATTAAAGTTAACTAAACCTA - 240
    - L  P  N  V  T  H  *  L  K  I  A  M  *  D  *  S  *  L  N  L
    -  S  L  M  L  H  I  D  *  R  L  L  C  E  I  K  V  N  *  T  Y
    -   P  *  C  Y  T  L  I  K  D  C  Y  V  R  L  K  L  T  K  P  T
241 - CTTGTGCTGTTTAGTTACGAGAATTCATTCTGCACAAGAGTAGACTATGTATCGTAAACG - 300
    - L  V  L  F  S  Y  E  N  S  F  C  T  R  V  D  Y  V  S  *  T
    -  L  C  C  L  V  T  R  I  H  S  A  Q  E  *  T  M  Y  R  K  R
    -   C  A  V  *  L  R  E  F  I  L  H  K  S  R  L  C  I  V  N  G
301 - GAATTGCGAAAACGTTTACATAGCCCATCTGCCTTGTGTGGTCATCATGAGTGTTTATGC - 360
    - E  L  R  K  R  L  H  S  P  S  A  L  C  G  H  H  E  C  L  C
    -  N  C  E  N  V  Y  I  A  H  L  P  C  V  V  I  M  S  V  Y  A
    -   I  A  K  T  F  T  *  P  I  C  L  V  W  S  S  *  V  F  M  P
361 - CTGAGTTGAATCAGCAGAAGCTCCACTCATGGAATTTTGAAGTTGTCTGGAGAAATCATC - 420
    - L  S  *  I  S  R  S  S  T  H  G  I  L  K  L  S  G  E  I  I
    -  *  V  E  S  A  E  A  P  L  M  E  F  *  S  C  L  E  K  S  S
    -   E  L  N  Q  Q  K  L  H  S  W  N  F  E  V  V  W  R  N  H  P
421 - CATGTCAGCCGCAGGAAGAAGAGTCACAGTGGGCTGCTTCTTTTGTCTCTGCGGCAAAGG - 480
    - H  V  S  R  R  K  K  S  H  S  G  L  L  L  L  S  L  R  Q  R
    -  M  S  A  A  G  R  R  V  T  V  G  C  F  F  C  L  C  G  K  G
    -   C  Q  P  Q  E  E  E  S  Q  W  A  A  S  F  V  S  A  A  K  A
481 - CTGAGCTTCATCAGTCTTTTTCTTTTTGTCCTTTTTAGGCTCTGTTGGTGGGAATGTTTT - 540
    - L  S  F  I  S  L  F  L  F  V  L  F  R  L  C  W  W  E  C  F
    -  *  A  S  S  V  F  F  F  L  S  F  L  G  S  V  G  G  N  V  L
    -   E  L  H  Q  S  F  S  F  C  P  F  *  A  L  L  V  G  M  F  C
541 - GTATGCGTCAATGTGCTTGTTCAGCAGTATGACGTTGTCTTTGAATTGTGGATCTTTGTC - 600
    - V  C  V  N  V  L  V  Q  Q  Y  D  V  V  F  E  L  W  I  F  V
    -  Y  A  S  M  C  L  F  S  S  M  T  L  S  L  N  C  G  S  L  S
    -   M  R  Q  C  A  C  S  A  V  *  R  C  L  *  I  V  D  L  C  H
601 - ATCCAATTTAATGGCTCCATGATAAGTCAGCCATGTTCCCGAAGGTGTGACTTCCATGCC - 660
    - I  Q  F  N  G  S  M  I  S  Q  P  C  S  R  R  C  D  F  H  A
    -  S  N  L  M  A  P  *  *  V  S  H  V  P  E  G  V  T  S  M  P
    -   P  I  *  W  L  H  D  K  S  A  M  F  P  K  V  *  L  P  C  Q
661 - AATGCGTGACATTCCAAAGAATGCAGAGGCACTTGGAGCAAATTGTGCAATTTGCGGCCA - 720
    - N  A  *  H  S  K  E  C  R  G  T  W  S  K  L  C  N  L  R  P
    -  M  R  D  I  P  K  N  A  E  A  L  G  A  N  C  A  I  C  G  Q
    -   C  V  T  F  Q  R  M  Q  R  H  L  E  Q  I  V  Q  F  A  A  N
721 - ATGTTTGTAATCAGTTCCTTGTCTGATTAGGTCTTGGTCCCCGAAATTTCCTTGGGTTTG - 780
    - M  F  V  I  S  S  L  S  D  *  V  L  V  P  E  I  S  L  G  L
    -  C  L  *  S  V  P  C  L  I  R  S  W  S  P  K  F  P  W  V  C
    -   V  C  N  Q  F  L  V  *  L  G  L  G  P  R  N  F  L  G  F  V
781 - TTCTGGACCACGTCTCCCAAATGCTTGAGTGACGTTGTACTGTTTTGTGGCAGTACGTTT - 840
    - F  W  T  T  S  P  K  C  L  S  D  V  V  L  F  C  G  S  T  F
    -  S  G  P  R  L  P  N  A  *  V  T  L  Y  C  F  V  A  V  R  F
    -   L  D  H  V  S  Q  M  L  E  *  R  C  T  V  L  W  Q  Y  V  F
```

FIG. 12

```
 841 - TTGGCGAGGCTTTTTAGATGCCTCAGCAGCAGATTTCTTAGTGACAGTTTGGCCTTGTTG -  900
     - L  A  R  L  F  R  C  L  S  S  R  F  L  S  D  S  L  A  L  L
     - W  R  G  F  L  D  A  S  A  A  D  F  L  V  T  V  W  P  C  C
     - G  E  A  F  *  M  P  Q  Q  Q  I  S  *  *  Q  F  G  L  V  V
 901 - TTGTTGGCCTTTACCAGAAACTTTGCTCTCAAGCTGGTTCAATCTGTCTAGCAGCAATAG -  960
     - L  L  A  F  T  R  N  F  A  L  K  L  V  Q  S  V  *  Q  Q  *
     - C  W  P  L  P  E  T  L  L  S  S  W  F  N  L  S  S  S  N  S
     - V  G  L  Y  Q  K  L  C  S  Q  A  G  S  I  C  L  A  A  I  A
 961 - CGCGAGGGCAGTTTCACCACCTCCGCTAGCCATTCGAGCAGGAGAATTTCCCCTACTGCT - 1020
     - R  E  G  S  F  T  T  S  A  S  H  S  S  R  R  I  S  P  T  A
     - A  R  A  V  S  P  P  P  L  A  I  R  A  G  E  F  P  L  L  L
     - R  G  Q  F  H  H  L  R  *  P  F  E  Q  E  N  F  P  Y  C  C
1021 - GCCAGGAGTTGAATTTCTTGAATTACCGCGACTACGTGATGAGGAGCGAGAAGAGGCTTG - 1080
     - A  R  S  *  I  S  *  I  T  A  T  T  *  *  G  A  R  R  G  L
     - P  G  V  E  F  L  E  L  P  R  L  R  D  E  E  R  E  E  A  *
     - Q  E  L  N  F  L  N  Y  R  D  Y  V  M  R  S  E  K  R  L  D
1081 - ACTGCCGCCTCTGCTTCCCTCTGCGTAGAAGCCTTTTGGCAATGTTGTTCCTTGAGGAAG - 1140
     - T  A  A  S  A  S  L  C  V  E  A  F  W  Q  C  C  S  L  R  K
     - L  P  P  L  L  P  S  A  *  K  P  F  G  N  V  V  P  *  G  S
     - C  R  L  C  F  P  L  R  R  S  L  L  A  M  L  F  L  E  E  V
1141 - TTGTAGCACGGTGGCAGCATTGTTATTAGGATTGCGGGTGCCAATGTGGTCTTTGGGTGT - 1200
     - L  *  H  G  G  S  I  V  I  R  I  A  G  A  N  V  V  F  G  C
     - C  S  T  V  A  A  L  L  L  G  L  R  V  P  M  W  S  L  G  V
     - V  A  R  W  Q  H  C  Y  *  D  C  G  C  Q  C  G  L  W  V  Y
1201 - ATTCAAGGCTCCCTCAGTTGCAACCCATACGATGCCTTCTTTGTTAGCGCCGTAGGGAAG - 1260
     - I  Q  G  S  L  S  C  N  P  Y  D  A  F  F  V  S  A  V  G  K
     - F  K  A  P  S  V  A  T  H  T  M  P  S  L  L  A  P  *  G  S
     - S  R  L  P  Q  L  Q  P  I  R  C  L  L  C  *  R  R  R  E  V
1261 - TGAAGCTTCTGGGCCAGTTCCTAGGTAATAGAAGTACCATCTGGGGCTGAGCTCTTTCAT - 1320
     - *  S  F  W  A  S  S  *  V  I  E  V  P  S  G  A  E  L  F  H
     - E  A  S  G  P  V  P  R  *  *  K  Y  H  L  G  L  S  S  F  I
     - K  L  L  G  Q  F  L  G  N  R  S  T  I  W  G  *  A  L  S  F
1321 - TTTGCCGTCACCACCACGAACTCGTCGGGTAGCTCTTCGGTAGTAGCCAATTTGGTCATC - 1380
     - F  A  V  T  T  T  N  S  S  G  S  S  S  V  V  A  N  L  V  I
     - L  P  S  P  P  R  T  R  R  V  A  L  R  *  *  P  I  W  S  S
     - C  R  H  H  H  E  L  V  G  *  L  F  G  S  S  Q  F  G  H  L
1381 - TGGACCACTATTGGTGTTGATTGGAACGCCCTGGCCTCGAGGGAATCTAAGTTCCTCCTT - 1440
     - W  T  T  I  G  V  D  W  N  A  L  A  S  R  E  S  K  F  L  L
     - G  P  L  L  V  L  I  G  T  P  W  P  R  G  N  L  S  S  S  L
     - D  H  Y  W  C  *  L  E  R  P  G  L  E  G  I  *  V  P  P  C
1441 - GCCATGCTGAGTGAGAGCTGTGAACCAAGACGCAGTATTATTGGGTAAACCTTGGGGTCG - 1500
     - A  M  L  S  E  S  C  E  P  R  R  S  I  I  G  *  T  L  G  S
     - P  C  *  V  R  A  V  N  Q  D  A  V  L  L  G  K  P  W  G  R
     - H  A  E  *  E  L  *  T  K  T  Q  Y  Y  W  V  N  L  G  V  G
1501 - GCGCTGTTTTGGCCTTGCCCCATTGCGTCCTCCATTCTGGTTATTGTCAGTTGAATCTGT - 1560
     - A  L  F  W  P  C  P  I  A  S  S  I  L  V  I  V  S  *  I  C
     - R  C  F  G  L  A  P  L  R  P  P  F  W  L  L  S  V  E  S  V
     - A  V  L  A  L  P  H  C  V  L  H  S  G  Y  C  Q  L  N  L  W
1561 - GGGTCCACCAAATGTAATGCGGGGGGCACTACGTTGGTTTGATTGGGGTCCATTATCAGA - 1620
     - G  S  T  K  C  N  A  G  G  T  T  L  V  *  L  G  S  I  I  R
     - G  P  P  N  V  M  R  G  A  L  R  W  F  D  W  G  P  L  S  D
     - V  H  Q  M  *  C  G  G  H  Y  V  G  L  I  G  V  H  Y  Q  T
1621 - CATTTTAATTTGTTCGTTTATTTAAAACAACAAGTACGTCTCTAAATGCAGCAGTTTGGT - 1680
     - H  F  N  L  F  V  Y  L  K  Q  Q  V  R  L  *  M  Q  Q  F  G
     - I  L  I  C  S  F  I  *  N  N  K  Y  V  S  K  C  S  S  L  V
     - F  *  F  V  R  L  F  K  T  T  S  T  S  L  N  A  A  V  W  *
```

FIG. 12 Con't

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1681 - GACCTTCATGAAGGTACCAACACCTAGCTATAAGCGCACCACCAGCTGGATCTTGACAGT - 1740
     - D  L  H  E  G  T  N  T  *  L  *  A  H  H  Q  L  D  L  D  S
     - T  F  M  K  V  P  T  P  S  Y  K  R  T  T  S  W  I  L  T  V
     - P  S  *  R  Y  Q  H  L  A  I  S  A  P  P  A  G  S  *  Q  L
1741 - TGATAGTAACATTAGGTGTGCATGTTTGAACCATAGTGTGCCATCTATGAAAAGGTAAAA - 1800
     - *  *  *  H  *  V  C  M  F  E  P  *  C  A  I  Y  E  K  V  K
     - D  S  N  I  R  C  A  C  L  N  H  S  V  P  S  M  K  R  *  N
     - I  V  T  L  G  V  H  V  *  T  I  V  C  H  L  *  K  G  K  T
1801 - CCTTTCCTAGAGCACAAAGCCAAGCAGTGCTATAAGTATTACCCCTAGTGTTGTACCTTA - 1860
     - P  F  L  E  H  K  A  K  Q  C  Y  K  Y  Y  P  *  C  C  T  L
     - L  S  *  S  T  K  P  S  S  A  I  S  I  T  P  S  V  V  P  Y
     - F  P  R  A  Q  S  Q  A  V  L  *  V  L  P  L  V  L  Y  L  T
1861 - CAAGGATCTTCAAGCACATGAGGTTTATTAGATGCACAGCGCTGTACTACAGTGCATATG - 1920
     - Q  G  S  S  S  T  *  G  L  L  D  A  Q  R  C  T  T  V  H  M
     - K  D  L  Q  A  H  E  V  Y  *  M  H  S  A  V  L  Q  C  I  C
     - R  I  F  K  H  M  R  F  I  R  C  T  A  L  Y  Y  S  A  Y  A
1921 - CAACTGCATAGAGAAATACAAGTCAAAACAATGAGAAGTTTCATGTTCGTTTAGACTTTG - 1980
     - Q  L  H  R  E  I  Q  V  K  T  M  R  S  F  M  F  V  *  T  L
     - N  C  I  E  K  Y  K  S  K  Q  *  E  V  S  C  S  F  R  L  W
     - T  A  *  R  N  T  S  Q  N  N  E  K  F  H  V  R  L  D  F  G
1981 - GTACAAGGTTCTTCTAGATCCTGGATTTCGAGTGAAAACCAAAATATAATAAGCATTATT - 2040
     - V  Q  G  S  S  R  S  W  I  S  S  E  N  Q  N  I  I  S  I  I
     - Y  K  V  L  L  D  P  G  F  R  V  K  T  K  I  *  *  A  L  L
     - T  R  F  F  *  I  L  D  F  E  *  K  P  K  Y  N  K  H  Y  *
2041 - AAAACAAGGAATAGCAGAAAGGCTAAAAAGCACAAATAGAAGTCAATTAAAGTGAGCTCA - 2100
     - K  T  R  N  S  R  K  A  K  K  H  K  *  K  S  I  K  V  S  S
     - K  Q  G  I  A  E  R  L  K  S  T  N  R  S  Q  L  K  *  A  H
     - N  K  E  *  Q  K  G  *  K  A  Q  I  E  V  N  *  S  E  L  I
2101 - TTCATTCTGTCTTTCTCTTAATGGTGAAGCAAAGTATTAAAAATACTAGAGCAGCAACAA - 2160
     - F  I  L  S  F  S  *  W  *  S  K  V  L  K  I  L  E  Q  Q  Q
     - S  F  C  L  S  L  N  G  E  A  K  Y  *  K  Y  *  S  S  N  N
     - H  S  V  F  L  L  M  V  K  Q  S  I  K  N  T  R  A  A  T  M
2161 - TGAGAAAAAGTGGCGAGTAGAGCTCTTGTTGAACCTCCTCTTGTCTGATGAAAAGTTTTG - 2220
     - *  E  K  V  A  S  R  A  L  V  E  P  P  L  V  *  *  K  V  L
     - E  K  K  W  R  V  E  L  L  L  N  L  L  L  S  D  E  K  F  W
     - R  K  S  G  E  *  S  S  C  *  T  S  S  C  L  M  K  S  F  G
2221 - GTGAAACTGATCTTGCACGCAGCTGATAGGTATGTCGAGTACCGTCAGCACAAGCAAAAG - 2280
     - V  K  L  I  L  H  A  A  D  R  Y  V  E  Y  R  Q  H  K  Q  K
     - *  N  *  S  C  T  Q  L  I  G  M  S  S  T  V  S  T  S  K  S
     - E  T  D  L  A  R  S  *  *  V  C  R  V  P  S  A  Q  A  K  A
2281 - CAAAGTGTGTGCTAGTGCAAGTTAGTGCAAATTTATTGTCAGCAAGAGGGTGAAATGGTG - 2340
     - Q  S  V  C  *  C  K  L  V  Q  I  Y  C  Q  Q  E  G  E  M  V
     - K  V  C  A  S  A  S  *  C  K  F  I  V  S  K  R  V  K  W  *
     - K  C  V  L  V  Q  V  S  A  N  L  L  S  A  R  G  *  N  G  E
2341 - AATTGCCCTCGTATGTTCCTGATGGGCAAGGTTCTTTTAGTAGTACAGTCGTACCTCTAA - 2400
     - N  C  P  R  M  F  L  M  G  K  V  L  L  V  V  Q  S  Y  L  *
     - I  A  L  V  C  S  *  W  A  R  F  F  *  *  Y  S  R  T  S  N
     - L  P  S  Y  V  P  D  G  Q  G  S  F  S  S  T  V  V  P  L  T
2401 - CACACTCCTGATAGTGATATAGCTCGCAAGATGTAAATACAATCAATGTCAGGAAGAGAA - 2460
     - H  T  P  D  S  D  I  A  R  K  M  *  I  Q  S  M  S  G  R  E
     - T  L  L  I  V  I  *  L  A  R  C  K  Y  N  Q  C  Q  E  E  N
     - H  S  *  *  *  Y  S  S  Q  D  V  N  T  I  N  V  R  K  R  I
2461 - TAATTTTCATGTTCGTTTTATGGATAATCTAACTCCATAGGTTCTTCATCATCTAACTCC - 2520
     - *  F  S  C  S  F  Y  G  *  S  N  S  I  G  S  S  S  S  N  S
     - N  F  H  V  R  F  M  D  N  L  T  P  *  V  L  H  H  L  T  P
     - I  F  M  F  V  L  W  I  I  *  L  H  R  F  F  I  I  *  L  R
```

FIG. 12 Con't

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2521 - GAATAATTCTTCTTAGTTAGAGGCTTAAATAATTGTCTCACTATTGAACTTATTATAACG - 2580
     - E  *  F  F  L  V  R  G  L  N  N  C  L  T  I  E  L  I  I  T
     - N  N  S  S  *  L  E  A  *  I  I  V  S  L  L  N  L  L  *  R
     - I  I  L  L  S  *  R  L  K  *  L  S  H  Y  *  T  Y  Y  N  V
2581 - TCAAGATTCCAAATAGCAATCCTGAAAGTCCTCATAATGATAATCAATATCTCTGCTATT - 2640
     - S  R  F  Q  I  A  I  L  K  V  L  I  M  I  I  N  I  S  A  I
     - Q  D  S  K  *  Q  S  *  K  S  S  *  *  *  S  I  S  L  L  L
     - K  I  P  N  S  N  P  E  S  P  H  N  D  N  Q  Y  L  C  Y  C
2641 - GTAACCTGGAAGTCAACAAGATGAAACATCTGTTGTCACTTACTGTACTAGCAAAGCAAT - 2700
     - V  T  W  K  S  T  R  *  N  I  C  C  H  L  L  Y  *  Q  S  N
     - *  P  G  S  Q  Q  D  E  T  S  V  V  T  Y  C  T  S  K  A  I
     - N  L  E  V  N  K  M  K  H  L  L  S  L  T  V  L  A  K  Q  Y
2701 - ATTGTCGTTGCTACCGGCGTGGTCTGTATTTAATTTATAGTTTCCAATACGGTAGCGGTT - 2760
     - I  V  V  A  T  G  V  V  C  I  *  F  I  V  S  N  T  V  A  V
     - L  S  L  L  P  A  W  S  V  F  N  L  *  F  P  I  R  *  R  L
     - C  R  C  Y  R  R  G  L  Y  L  I  Y  S  F  Q  Y  G  S  G  C
2761 - GTATGCAGCAAAACCTGAATCAGTGCCTACACGCTGCGACGCTCCTAATTTGTAATAAGA - 2820
     - V  C  S  K  T  *  I  S  A  Y  T  L  R  R  S  *  F  V  I  R
     - Y  A  A  K  P  E  S  V  P  T  R  C  D  A  P  N  L  *  *  E
     - M  Q  Q  N  L  N  Q  C  L  H  A  A  T  L  L  I  C  N  K  K
2821 - AAGCGTTCGTGATGTAGCCACAGTGATCTCTTTTGGCAGGTCCTTAATGTCACAGCGCCC - 2880
     - K  R  S  *  C  S  H  S  D  L  F  W  Q  V  L  N  V  T  A  P
     - S  V  R  D  V  A  T  V  I  S  F  G  R  S  L  M  S  Q  R  P
     - A  F  V  M  *  P  Q  *  S  L  L  A  G  P  *  C  H  S  A  L
2881 - TAGGGAGTGTCCGGCCATTCGCAAGTGACCACGAATGATCACAGCACCAATGACAAGTTC - 2940
     - *  G  V  S  G  H  S  Q  V  T  T  N  D  H  S  T  N  D  K  F
     - R  E  C  P  A  I  R  K  *  P  R  M  I  T  A  P  M  T  S  S
     - G  S  V  R  P  F  A  S  D  H  E  *  S  Q  H  Q  *  Q  V  H
2941 - ACTTTCCATGAGCGGTCTGGTCACAATTGTCCCCCGGAGAGGCACATTGAGAAGAATGTT - 3000
     - T  F  H  E  R  S  G  H  N  C  P  P  E  R  H  I  E  K  N  V
     - L  S  M  S  G  L  V  T  I  V  P  R  R  G  T  L  R  R  M  F
     - F  P  *  A  V  W  S  Q  L  S  P  G  E  A  H  *  E  E  C  L
3001 - TGTTTCTGGGTTGAATGACCACATTGAGCGGGTACGAGCAAACAGCCTGAAGGAAGCAAC - 3060
     - C  F  W  V  E  *  P  H  *  A  G  T  S  K  Q  P  E  G  S  N
     - V  S  G  L  N  D  H  I  E  R  V  R  A  N  S  L  K  E  A  T
     - F  L  G  *  M  T  T  L  S  G  Y  E  Q  T  A  *  R  K  Q  R
3061 - GAAGTAGCTAAGCCACATCAAGCCTACAATACAAGCCATTGCAATCGCAATCCCGCCAGT - 3120
     - E  V  A  K  P  H  Q  A  Y  N  T  S  H  C  N  R  N  P  A  S
     - K  *  L  S  H  I  K  P  T  I  Q  A  I  A  I  A  I  P  P  V
     - S  S  *  A  T  S  S  L  Q  Y  K  P  L  Q  S  Q  S  R  Q  S
3121 - CACCCAATTAATTCTGTAGACAACAGCAAGCACAAAACAAGCAAGTGTTACTGGCCACAA - 3180
     - H  P  I  N  S  V  D  N  S  K  H  K  T  S  K  C  Y  W  P  Q
     - T  Q  L  I  L  *  T  T  A  S  T  K  Q  A  S  V  T  G  H  K
     - P  N  *  F  C  R  Q  Q  Q  A  Q  N  K  Q  V  L  L  A  T  R
3181 - GAGCCAGAGGAAAACAAGCTTTATTATGTACAAAAACCTGTTCCGATTAGAATAGGCAAA - 3240
     - E  P  E  E  N  K  L  Y  Y  V  Q  K  P  V  P  I  R  I  G  K
     - S  Q  R  K  T  S  F  I  M  Y  K  N  L  F  R  L  E  *  A  N
     - A  R  G  K  Q  A  L  L  C  T  K  T  C  S  D  *  N  R  Q  I
3241 - TTGTAGTAACATAATCCAGGCTAGGAATAGGAAACCTATTACTAGGTTCCATTGTTCCAG - 3300
     - L  *  *  H  N  P  G  *  E  *  E  T  Y  Y  *  V  P  L  F  Q
     - C  S  N  I  I  Q  A  R  N  R  K  P  I  T  R  F  H  C  S  R
     - V  V  T  *  S  R  L  G  I  G  N  L  L  L  G  S  I  V  P  G
3301 - GAGTTGTTTAAGCTCCTCAACGGTAATAGTACCGTTGTCTGCCATGATAAGCAATGTTAA - 3360
     - E  L  F  K  L  L  N  G  N  S  T  V  V  C  H  D  K  Q  C  *
     - S  C  L  S  S  S  T  V  I  V  P  L  S  A  M  I  S  N  V  K
     - V  V  *  A  P  Q  R  *  *  Y  R  C  L  P  *  *  A  M  L  K
```

FIG. 12 Con't

```
3361 - AGTTCCAAACAGAATAATAATAATAGTTAGTTCGTTTAGACCAGAAGATCAGGAACTCCT - 3420
     - S  S  K  Q  N  N  N  N  S  *  F  V  *  T  R  R  S  G  T  P
     - V  P  N  R  I  I  I  I  V  S  S  F  R  P  E  D  Q  E  L  L
     - F  Q  T  E  *  *  *  *  L  V  R  L  D  Q  K  I  R  N  S  F

3421 - TCAGAAGAGTTCAGATTTTTAACACGCGAGTAGACGTAAACCGTTGGTTTTACTAAACTC - 3480
     - S  E  E  F  R  F  L  T  R  E  *  T  *  T  V  G  F  T  K  L
     - Q  K  S  S  D  F  *  H  A  S  R  R  K  P  L  V  L  L  N  S
     - R  R  V  Q  I  F  N  T  R  V  D  V  N  R  W  F  Y  *  T  H

3481 - ACGTTAACAATATTGCAGCAGTACGCACACAATCGAAGCGCAGTAAGGATGGCTAGTGTG - 3540
     - T  L  T  I  L  Q  Q  Y  A  H  N  R  S  A  V  R  M  A  S  V
     - R  *  Q  Y  C  S  S  T  H  T  I  E  A  Q  *  G  W  L  V  *
     - V  N  N  I  A  A  V  R  T  Q  S  K  R  S  K  D  G  *  C  D

3541 - ACTAGCAAGAATACCACGAAAGCAAGAAAAAGAAGTACGCTATTAACTATTAACGTACCT - 3600
     - T  S  K  N  T  T  K  A  R  K  R  S  T  L  L  T  I  N  V  P
     - L  A  R  I  P  R  K  Q  E  K  E  V  R  Y  *  L  L  T  Y  L
     - *  Q  E  Y  H  E  S  K  K  K  K  Y  A  I  N  Y  *  R  T  C

3601 - GTTTCTTCCGAAACGAATGAGTACATAAGTTCGTACTCACTTTCTTGTGCTTACAAAGGC - 3660
     - V  S  S  E  T  N  E  Y  I  S  S  Y  S  L  S  C  A  Y  K  G
     - F  L  P  K  R  M  S  T  *  V  R  T  H  F  L  V  L  T  K  A
     - F  F  R  N  E  *  V  H  K  F  V  L  T  F  L  C  L  Q  R  H

3661 - ACGCTAGTAGTCGTCGTCGGCTCATCATAAATTGGATCCATTGCTGGATTAGCAACTCCT - 3720
     - T  L  V  V  V  V  G  S  S  *  I  G  S  I  A  G  L  A  T  P
     - R  *  *  S  S  S  A  H  H  K  L  D  P  L  L  D  *  Q  L  L
     - A  S  S  R  R  R  L  I  I  N  W  I  H  C  W  I  S  N  S  *

3721 - GAAGAGCCGTCGATTGTGTGTATTTGCACATTCGGTGGGTCTTTAACAAGCTTGTTAAAG - 3780
     - E  E  P  S  I  V  C  I  C  T  F  G  G  S  L  T  S  L  L  K
     - K  S  R  R  L  C  V  F  A  H  S  V  G  L  *  Q  A  C  *  R
     - R  A  V  D  C  V  Y  L  H  I  R  W  V  F  N  K  L  V  K  D

3781 - ATGAAGAATGTAGCATTTTCAATACCAGTGTCTGTAGTAATTTGTGTAGACTCAAGCTGG - 3840
     - M  K  N  V  A  F  S  I  P  V  S  V  V  I  C  V  D  S  S  W
     - *  R  M  *  H  F  Q  Y  Q  C  L  *  *  F  V  *  T  Q  A  G
     - E  E  C  S  I  F  N  T  S  V  C  S  N  L  C  R  L  K  L  V

3841 - TAGTAAACTTCGGTGAAATAGCCATGTACAACGACATAGTCTTTAACACCTGAGTGCCTA - 3900
     - *  *  T  S  V  K  *  P  C  T  T  T  *  S  L  T  P  E  C  L
     - S  K  L  R  *  N  S  H  V  Q  R  H  S  L  *  H  L  S  A  Y
     - V  N  F  G  E  I  A  M  Y  N  D  I  V  F  N  T  *  V  P  I

3901 - TCCTCAGAATAACCACCAATTTGGTAGTCTTCTTTGAGTTTTGGTGTTGAAATGCCGTCA - 3960
     - S  S  E  *  P  P  I  W  *  S  S  L  S  F  G  V  E  M  P  S
     - P  Q  N  N  H  Q  F  G  S  L  L  *  V  L  V  L  K  C  R  H
     - L  R  I  T  T  N  L  V  V  F  F  E  F  W  C  *  N  A  V  T

3961 - CCTTCAGTAACGACAATTGTATCTGTGACACTGTTATATGGTATACAGTAGTCATAGTTA - 4020
     - P  S  V  T  T  I  V  S  V  T  L  L  Y  G  I  Q  *  S  *  L
     - L  Q  *  R  Q  L  Y  L  *  H  C  Y  M  V  Y  S  S  H  S  Y
     - F  S  N  D  N  C  I  C  D  T  V  I  W  Y  T  V  V  I  V  M

4021 - TGTGTGTGCCAGCAAACAAAGTAGTTGGCATCATAAAGTAATGGGTTCTTGGATTTGCAC - 4080
     - C  V  C  Q  Q  T  K  *  L  A  S  *  S  N  G  F  L  D  L  H
     - V  C  A  S  K  Q  S  S  W  H  H  K  V  M  G  S  W  I  C  T
     - C  V  P  A  N  K  V  V  G  I  I  K  *  W  V  L  G  F  A  L

4081 - TTCCAACAAAGCCAACATCTCATAATAATTCTACATGCGTTGATGCATTGTAGAAAATAT - 4140
     - F  Q  Q  S  Q  H  L  I  I  I  L  H  A  L  M  H  C  R  K  Y
     - S  N  K  A  N  I  S  *  *  F  Y  M  R  *  C  I  V  E  N  I
     - P  T  K  P  T  S  H  N  N  S  T  C  V  D  A  L  *  K  I  Y

4141 - ATCAAGGCATAGAGGTACAAAAATTGCGCCTCCTTACCTGCAGCGACAAGCAAAAGATGT - 4200
     - I  K  A  *  R  Y  K  N  C  A  S  L  P  A  A  T  S  K  R  C
     - S  R  H  R  G  T  K  I  A  P  P  Y  L  Q  R  Q  A  K  D  V
     - Q  G  I  E  V  Q  K  L  R  L  L  T  C  S  D  K  Q  K  M  *
```

FIG. 12 Con't

```
4201 - GAATAGATGGTAACAAATAGCAGCAGTAAATTGCAAATGAACTGGAAGCCCTTATAAAGG - 4260
     - E * M V T N S S S K L Q M N W K P L * R
     - N R W * Q I A A V N C K * T G S P Y K G
     - I D G N K * Q Q * I A N E L E A L I K G
4261 - GCTAGCTGCCATCTTTTATTGAGCGCAATTATTTTGGTAGCGCTCTGAAAAACAGCAAGA - 4320
     - A S C H L L L S A I I L V A L * K T A R
     - L A A I F Y * A Q L F W * R S E K Q Q E
     - * L P S F I E R N Y F G S A L K N S K K
4321 - AATGCAACGCCAATAACAAGCCATCCGAAAGGGAGTGAGGCTTGTAGCGGTATCGTTGCT - 4380
     - N A T P I T S H P K G S E A C S G I V A
     - M Q R Q * Q A I R K G V R L V A V S L L
     - C N A N N K P S E R E * G L * R Y R C C
4381 - GTAGCATGAACAGTACTTGCAGGAGAAGCATTGTCAATTTTTACTGGCTGTGCAGTAATT - 4440
     - V A * T V L A G E A L S I F T G C A V I
     - * H E Q Y L Q E K H C Q F L L A V Q * L
     - S M N S T C R R S I V N F Y W L C S N *
4441 - GATCCAAGAGTAAAAAATCTCATAAACAAATCCATAAGTTCGTTTATGTGTAATGTAATT - 4500
     - D P R V K N L I N K S I S S F M C N V I
     - I Q E * K I S * T N P * V R L C V M * F
     - S K S K K S H K Q I H K F V Y V * C N L
4501 - TGACACCCTTGAGAACTGGCTCAGAGTCATCCTCATCAAACTTGCAGCAAGAACCACAAG - 4560
     - * H P * E L A Q S H P H Q T C S K N H K
     - D T L E N W L R V I L I K L A A R T T R
     - T P L R T G S E S S S S N L Q Q E P Q E
4561 - AGCATGCACCCTTGAGGCAACTGCAACAACTAGTCATGCAACAAAGCAAGATTGTAACCA - 4620
     - S M H P * G N C N N * S C N K A R L * P
     - A C T L E A T A T T S H A T K Q D C N H
     - H A P L R Q L Q Q L V M Q Q S K I V T M
4621 - TGACGATGGCAATTAGTCCAGCAATGAAGCCGAGCCAAACATACCAAGGCCATTTAATAT - 4680
     - * R W Q L V Q Q * S R A K H T K A I * Y
     - D D G N * S S N E A E P N I P R P F N I
     - T M A I S P A M K P S Q T Y Q G H L I Y
4681 - ATTGCTCATATTTTCCCAATTCTTGAAGGTCAATGAGTGATTCATTTAAATTTTTAGCGA - 4740
     - I A H I F P I L E G Q * V I H L N F * R
     - L L I F S Q F L K V N E * F I * I F S D
     - C S Y F P N S * R S M S D S F K F L A T
4741 - CCTCATTGAGGCGGTCAATTTCTTTTTGAATGTTGACGACAGAAGCGTTAATGCCTGAAA - 4800
     - P H * G G Q F L F E C * R Q K R * C L K
     - L I E A V N F F L N V D D R S V N A * N
     - S L R R S I S F * M L T T E A L M P E M
4801 - TGTCGCCAAGATCAACATCTGGTGATGTATGATTTTTGAAGTACTTGTCCAGCTCTTCTT - 4860
     - C R Q D Q H L V M Y D F * S T C P A L L
     - V A K I N I W * C M I F E V L V Q L F F
     - S P R S T S G D V * F L K Y L S S S S L
4861 - TGAATGAGTCAAGCTCAGGTTGCAGAGGATCATAAACTGTGTTGTTAATGATGCCAATAA - 4920
     - * M S Q A Q V A E D H K L C C * * C Q *
     - E * V K L R L Q R I I N C V V N D A N N
     - N E S S S G C R G S * T V L L M M P I T
4921 - CGACATCACAATTTCCTGAGACAAATGTATTGTCTGTAGTAATTATTTGTGGAGAAAAGA - 4980
     - R H H N F L R Q M Y C L * * L F V E K R
     - D I T I S * D K C I V C S N Y L W R K E
     - T S Q F P E T N V L S V V I I C G E K K
4981 - AGTTCCTCTGTGTAATAAACCAAGAAGTGCCATTAAACACAAAAACACCTTCACGAGGGA - 5040
     - S S S V * * T K K C H * T Q K H L H E G
     - V P L C N K P R S A I K H H K N T F T R E
     - F L C V I N Q E V P L N T K T P S R G K
```

FIG. 12 Con't

```
5041 - AGTATGCTTTGCCTTCATGACAAATTGCTGGCGCTGTGGTGAAGTTCCTCTCCTGGGATG - 5100
     - S  M  L  C  L  H  D  K  L  L  A  L  W  *  S  S  S  P  G  M
     - V  C  F  A  F  M  T  N  C  W  R  C  G  E  V  P  L  L  G  W
     -  Y  A  L  P  S  *  Q  I  A  G  A  V  V  K  F  L  S  W  D  G

5101 - GCACATACGTGACATGTAGGAAGACAACACCATGCGGGGCTGCTTGTGGGAAGGACATAA - 5160
     - A  H  T  *  H  V  G  R  Q  H  H  A  G  L  L  V  G  R  T  *
     - H  I  R  D  M  *  E  D  N  T  M  R  G  C  L  W  E  G  H  K
     -  T  Y  V  T  C  R  K  T  T  P  C  G  A  A  C  G  K  D  I  R

5161 - GGTGGTAGCCCTTTCCACAAAAGTCAACTCTTTTTGATTGTCCAAGAACACACTCAGACA - 5220
     - G  G  S  P  F  H  K  S  Q  L  F  L  I  V  Q  E  H  T  Q  T
     - V  V  A  L  S  T  K  V  N  S  F  *  L  S  K  N  T  L  R  H
     -  W  *  P  F  P  Q  K  S  T  L  F  D  C  P  R  T  H  S  D  I

5221 - TTTTAGTAGCAGCAAGATTAGCAGAAGCCCTGATTTCAGCAGCCCTGATTAGTTGTTGTG - 5280
     - F  *  *  Q  Q  D  *  Q  K  P  *  F  Q  Q  P  *  L  V  V  V
     - F  S  S  S  K  I  S  R  S  P  D  F  S  S  P  D  *  L  L  C
     -  L  V  A  A  R  L  A  E  A  L  I  S  A  A  L  I  S  C  C  V

5281 - TTACATAGGTTTGAAGGCTTTGAAGTCTGCCTGTAATTAACCTGTCAATTTGTACCTCCG - 5340
     - L  H  R  F  E  G  F  E  V  C  L  *  L  T  C  Q  F  V  P  P
     - Y  I  G  L  K  A  L  K  S  A  C  N  *  P  V  N  L  Y  L  R
     -  T  *  V  *  R  L  *  S  L  P  V  I  N  L  S  I  C  T  S  A

5341 - CCTCGACTTTATCAAGTCGCGAAAGGATATCATTTAGCACACTTGAAATTGCACCAAAAT - 5400
     - P  R  L  Y  Q  V  A  K  G  Y  H  L  A  H  L  K  L  H  Q  N
     - L  D  F  I  K  S  R  K  D  I  I  *  H  T  *  N  C  T  K  I
     -  S  T  L  S  S  R  E  R  I  S  F  S  T  L  E  I  A  P  K  L

5401 - TAGAGCTAAGTTGTTTAACAAGTGTGTTTAATGCTTGAGCATTCTGGTTAACAACGTCTT - 5460
     - *  S  *  V  V  *  Q  V  C  L  M  L  E  H  S  G  *  Q  R  L
     - R  A  K  L  F  N  K  C  V  *  C  L  S  I  L  V  N  N  V  L
     -  E  L  S  C  L  T  S  V  F  N  A  *  A  F  W  L  T  T  S  C

5461 - GCAGCTTGCCCAATGCAGTTGATGTTGTTGTAAGTGATTCTTGAATTTGACTAATCGCCT - 5520
     - A  A  C  P  M  Q  L  M  L  L  *  V  I  L  E  F  D  *  S  P
     - Q  L  A  Q  C  S  *  C  C  C  K  *  F  L  N  L  T  N  R  L
     -  S  L  P  N  A  V  D  V  V  V  S  D  S  *  I  *  L  I  A  L

5521 - TGTTAAATTGGTTGGCGATTTGTTTTTGGTTCTCATAGAGAACATTTTGGGTAACTCCAA - 5580
     - C  *  I  G  W  R  F  V  F  G  S  H  R  E  H  F  G  *  L  Q
     - V  K  L  V  G  D  L  F  L  V  L  I  E  N  I  L  G  N  S  N
     -  L  N  W  L  A  I  C  F  W  F  S  *  R  T  F  W  V  T  P  M

5581 - TGCCATTGAACCTATATGCCATTTGCATAGCAAAAGGTATTTGAAGAGCAGCGCCAGCAC - 5640
     - C  H  *  T  Y  M  P  F  A  *  Q  K  V  F  E  E  Q  R  Q  H
     - A  I  E  P  I  C  H  L  H  S  K  R  Y  L  K  S  S  A  S  T
     -  P  L  N  L  Y  A  I  C  I  A  K  G  I  *  R  A  A  P  A  P

5641 - CAAATGTCCATCCAGCAGTGGCAGTACCACTAACTAGAGCAGCAGTGTAGGCAGCAATCA - 5700
     - Q  M  S  I  Q  Q  W  Q  Y  H  *  L  E  Q  Q  C  R  Q  Q  S
     - K  C  P  S  S  S  G  S  T  T  N  *  S  S  S  V  G  S  N  H
     -  N  V  H  P  A  V  A  V  P  L  T  R  A  A  V  *  A  A  I  I

5701 - TATCATCAGTGAGCAGAGGTGGCAACACTGTAAGTCCATTGAACTTCTGCGCACAAATGA - 5760
     - Y  H  Q  *  A  E  V  A  T  L  *  V  H  *  T  S  A  H  K  *
     - I  I  S  E  Q  R  W  Q  H  C  K  S  I  E  L  L  R  T  N  E
     -  S  S  V  S  R  G  G  N  T  V  S  P  L  N  F  C  A  Q  M  R

5761 - GATCTCTAGCATTAATATCACCTAGGCATTCGCCATATTGCTTCATGAAGCCAGCATCAG - 5820
     - D  L  *  H  *  Y  H  L  G  I  R  H  I  A  S  *  S  Q  H  Q
     - I  S  S  I  N  I  T  *  A  F  A  I  L  L  H  E  A  S  I  S
     -  S  L  A  L  I  S  P  R  H  S  P  Y  C  F  M  K  P  A  S  A

5821 - CGAGTGTCACCTTATTAAAGAGCAAGTCCTCAATAAAAGACCTCTTAGTTGGCTTTAGAG - 5880
     - R  V  S  P  Y  *  R  A  S  P  Q  *  K  T  S  *  L  A  L  E
     - E  C  H  L  I  K  E  Q  V  L  N  K  R  P  L  S  W  L  *  R
     -  S  V  T  L  L  K  S  K  S  S  I  K  D  L  L  V  G  F  R  G
```

FIG. 12 Con't

```
5881 - GGTCAGGTAATATTTGTGAAAAATTAAAACCACCAAAATATTTCAAAGTTGGGGTTTTGT - 5940
     - G  Q  V  I  F  V  K  N  *  N  H  Q  N  I  S  K  L  G  F  C
     - V  R  *  Y  L  *  K  I  K  T  T  K  I  F  Q  S  W  G  F  V
     - S  G  N  I  C  E  K  L  K  P  P  K  Y  F  K  V  G  V  L  Y
5941 - ACATTTGTTTGACTTGAGCGAACACTTCACGTGTGTTGCGATCCTGTTCAGCAGCAATAC - 6000
     - T  F  V  *  L  E  R  T  L  H  V  C  C  D  P  V  Q  Q  Q  Y
     - H  L  F  D  L  S  E  H  F  T  C  V  A  I  L  F  S  S  N  T
     - I  C  L  T  *  A  N  T  S  R  V  L  R  S  C  S  A  A  I  P
6001 - CTGAGAGTGCACGATTTAGTTGTGTGCAAAAGCTACCATATTGGAGAAGCAAATTAGCAC - 6060
     - L  R  V  H  D  L  V  V  C  K  S  Y  H  I  G  E  A  N  *  H
     - *  E  C  T  I  *  L  C  A  K  A  T  I  L  E  K  Q  I  S  T
     - E  S  A  R  F  S  C  V  Q  K  L  P  Y  W  R  S  K  L  A  H
6061 - ATTCAGTAGAATCTCCGCAGATGTACATATTACAATCTACGGAGGTTTTAGCCATAGAAA - 6120
     - I  Q  *  N  L  R  R  C  T  Y  Y  N  L  R  R  F  *  P  *  K
     - F  S  R  I  S  A  D  V  H  I  T  I  Y  G  G  F  S  H  R  N
     - S  V  E  S  P  Q  M  Y  I  L  Q  S  T  E  V  L  A  I  E  T
6121 - CAGGCATTACTTCTGTAGTAATGCTAATTGAAAAGTTAGTAGGTATAGCAATGGTGTTAT - 6180
     - Q  A  L  L  L  *  *  C  *  L  K  S  *  *  V  *  Q  W  C  Y
     - R  H  Y  F  C  S  N  A  N  *  K  V  S  R  Y  S  N  G  V  I
     - G  I  T  S  V  V  M  L  I  E  K  L  V  G  I  A  M  V  L  L
6181 - TAGAGTAAGCAATTGAACTATCAGCACCTAAAGACATAGTATAAGCCACAATAGATTTTT - 6240
     - *  S  K  Q  L  N  Y  Q  H  L  K  T  *  Y  K  P  Q  *  I  F
     - R  V  S  N  *  T  I  S  T  *  R  H  S  I  S  H  N  R  F  L
     - E  *  A  I  E  L  S  A  P  K  D  I  V  *  A  T  I  D  F  W
6241 - GGCTAGTACTACGTAATAAAGAAACTGTATGGTAACTAGCACAAATGCCAGCTCCAATAG - 6300
     - G  *  Y  Y  V  I  K  K  L  Y  G  N  *  H  K  C  Q  L  Q  *
     - A  S  T  T  *  *  R  N  C  M  V  T  S  T  N  A  S  S  N  R
     - L  V  L  R  N  K  E  T  V  W  *  L  A  Q  M  P  A  P  I  G
6301 - GAATGTCGCACTCATAAGAAGTGTCGACATGCTCAGCTCCTATAAGACAGCCTGCTTGAG - 6360
     - E  C  R  T  H  K  K  C  R  H  A  Q  L  L  *  D  S  L  L  E
     - N  V  A  L  I  R  S  V  D  M  L  S  S  Y  K  T  A  C  L  S
     - M  S  H  S  *  E  V  S  T  C  S  A  P  I  R  Q  P  A  *  V
6361 - TCTGGAATACATTGTTTCCAGTAGAATATATGCGCCAAGCTGGTGTGAGTTGATCTGCAT - 6420
     - S  G  I  H  C  F  Q  *  N  I  C  A  K  L  V  *  V  D  L  H
     - L  E  Y  I  V  S  S  R  I  Y  A  P  S  W  C  E  L  I  C  M
     - W  N  T  L  F  P  V  E  Y  M  R  Q  A  G  V  S  *  S  A  *
6421 - GAATTGCTGTAGAAACATCAGTGCAGTTAACATCTTGATATAGAACAGCAACTTCAGATG - 6480
     - E  L  L  *  K  H  Q  C  S  *  H  L  D  I  E  Q  Q  L  Q  M
     - N  C  C  R  N  I  S  A  V  N  I  L  I  *  N  S  N  F  R  *
     - I  A  V  E  T  S  V  Q  L  T  S  *  Y  R  T  A  T  S  D  E
6481 - AAGCATTTGTTCCAGGTGTAATTACACTTACACCCCCAAAAGAGCAAGGTGAAATGTCTA - 6540
     - K  H  L  F  Q  V  *  L  H  L  H  P  Q  K  S  K  V  K  C  L
     - S  I  C  S  R  C  N  Y  T  Y  T  P  K  R  A  R  *  N  V  *
     - A  F  V  P  G  V  I  T  L  T  P  P  K  E  Q  G  E  M  S  N
6541 - ATATTTCAGATGTTTTAGGATCTCGAACGGAATCAGTGAAATCAGAAACATCACGGCCAA - 6600
     - I  F  Q  M  F  *  D  L  E  R  N  Q  *  N  Q  K  H  H  G  Q
     - Y  F  R  C  F  R  I  S  N  G  I  S  E  I  R  N  I  T  A  K
     - I  S  D  V  L  G  S  R  T  E  S  V  K  S  E  T  S  R  P  N
6601 - ATTGTTGAAATGGTTGAAATCTCTTTGAAGAAGGAGTTAACACACCAGTACCAGTGAGTC - 6660
     - I  V  E  M  V  E  I  S  L  K  K  E  L  T  H  Q  Y  Q  *  V
     - L  L  K  W  L  K  S  L  *  R  R  S  *  H  T  S  T  S  E  S
     - C  *  N  G  *  N  L  F  E  E  G  V  N  T  P  V  P  V  S  P
6661 - CATTAAAATTAAAATTGACACACTGGTTCTTAATAAGGTCAGTGGATAATTTTGGTCCAC - 6720
     - H  *  N  *  N  *  H  T  G  S  *  *  G  Q  W  I  I  L  V  H
     - I  K  I  K  I  D  T  L  V  L  N  K  V  S  G  *  F  W  S  T
     - L  K  L  K  L  T  H  W  F  L  I  R  S  V  D  N  F  G  P  Q
```

FIG. 12 Con't

```
6721 - AAACCGTGGCCGGTGCATTTAAAAGTTCAAAAGAAAGTACTACAACTCTGTAAGGTTGGT - 6780
     - K  P  W  P  V  H  L  K  V  Q  K  K  V  L  Q  L  C  K  V  G
     - N  R  G  R  C  I  *  K  F  K  R  K  Y  Y  N  S  V  R  L  V
     - T  V  A  G  A  F  K  S  S  K  E  S  T  T  T  L  *  G  W  *
6781 - AGCCAATGCCAGTAGTGGTGTAAAAACCATAATCATTTAATGGCCAATAACAATTAAGAG - 6840
     - S  Q  C  Q  *  W  C  K  N  H  N  H  L  M  A  N  N  N  *  E
     - A  N  A  S  S  G  V  K  T  I  I  I  *  W  P  I  T  I  K  S
     - P  M  P  V  V  V  *  K  P  *  S  F  N  G  Q  *  Q  L  R  A
6841 - CAGGTGGGGTGCAAGGTTTGCCATCAGGGGAGAAAGGCACATTAGATATGTCTCTCTCAA - 6900
     - Q  V  G  C  K  V  C  H  Q  G  R  K  A  H  *  I  C  L  S  Q
     - R  W  G  A  R  F  A  I  R  G  E  R  H  I  R  Y  V  S  L  K
     - G  G  V  Q  G  L  P  S  G  E  K  G  T  L  D  M  S  L  S  K
6901 - AGGGCCTAAGCTTGCCATGTCTAAGATACCTATATTTATAATTATAATTACCAGTTGAAG - 6960
     - R  A  *  A  C  H  V  *  D  T  Y  I  Y  N  Y  N  Y  Q  L  K
     - G  P  K  L  A  M  S  K  I  P  I  F  I  I  I  I  T  S  *  S
     - G  L  S  L  P  C  L  R  Y  L  Y  L  *  L  *  L  P  V  E  V
6961 - TAGCATCAATGTTCCTAGTATTCCAAGCAAGGACACAACCCATGAAATCATCTGGCAATT - 7020
     - *  H  Q  C  S  *  Y  S  K  Q  G  H  N  P  *  N  H  L  A  I
     - S  I  N  V  P  S  I  P  S  K  D  T  T  H  E  I  I  W  Q  F
     - A  S  M  F  L  V  F  Q  A  R  T  Q  P  M  K  S  S  G  N  L
7021 - TATAATTATAATCAGCAATAACACCAGTTTGTCCTGGCGCTATTTGTCTTACATCATCTC - 7080
     - Y  N  Y  N  Q  Q  *  H  Q  F  V  L  A  L  F  V  L  H  H  L
     - I  I  I  I  S  N  N  T  S  L  S  W  R  Y  L  S  Y  I  I  S
     - *  L  *  S  A  I  T  P  V  C  P  G  A  I  C  L  T  S  S  P
7081 - CCTTGACTACAAAAGAATCTGCATAGACATTGGAGAAGCAAAGATCATTCAACTTAGTGG - 7140
     - P  *  L  Q  K  N  L  H  R  H  W  R  S  K  D  H  S  T  *  W
     - L  D  Y  K  R  I  C  I  D  I  G  E  A  K  I  I  Q  L  S  G
     - L  T  T  K  E  S  A  *  T  L  E  K  Q  R  S  F  N  L  V  A
7141 - CAGAAACGCCATAGCACTTAAAGGTTGAAAAAAATGTTGAGTTGTAGAGCACAGAGTAAT - 7200
     - Q  K  R  H  S  T  *  R  L  K  K  M  L  S  C  R  A  Q  S  N
     - R  N  A  I  A  L  K  G  *  K  K  C  *  V  V  E  H  R  V  I
     - E  T  P  *  H  L  K  V  E  K  N  V  E  L  *  S  T  E  *  S
7201 - CAGCAACACAATTAGAAATTTTTTTTCTCTCCCATGCATAGACAGAAGGGAATTTAGTAG - 7260
     - Q  Q  H  N  *  K  F  F  F  S  P  M  H  R  Q  K  G  I  *  *
     - S  N  T  I  R  N  F  F  S  L  P  C  I  D  R  R  E  F  S  S
     - A  T  Q  L  E  I  F  F  L  S  H  A  *  T  E  G  N  L  V  A
7261 - CATTAAAAACCTCTCCAAAAGGACACAAGTTTGTAATATTAGGGAATCTCACAACATCTC - 7320
     - H  *  K  P  L  Q  K  D  T  S  L  *  Y  *  G  I  S  Q  H  L
     - I  K  N  L  S  K  R  T  Q  V  C  N  I  R  E  S  H  N  I  S
     - L  K  T  S  P  K  G  H  K  F  V  I  L  G  N  L  T  T  S  P
7321 - CTGAGGGAACAACCCTGAAATTAGAGGTCTGGTAAATTCCTTTGTCAATCTCAAAGCTCT - 7380
     - L  R  E  Q  P  *  N  *  R  S  G  K  F  L  C  Q  S  Q  S  S
     - *  G  N  N  P  E  I  R  G  L  V  N  S  F  V  N  L  K  A  L
     - E  G  T  T  L  K  L  E  V  W  *  I  P  L  S  I  S  K  L  L
7381 - TAACAGAGCATTTGAGTTCAGCAAGTGGATTTTGAGAACAATCAACAGCATCTGTGATTG - 7440
     - *  Q  S  I  *  V  Q  Q  V  D  F  E  N  N  Q  Q  H  L  *  L
     - N  R  A  F  E  F  S  K  W  I  L  R  T  I  N  S  I  C  D  C
     - T  E  H  L  S  S  A  S  G  F  *  E  Q  S  T  A  S  V  I  V
7441 - TACCATTTTCATCATACTTGAGCATAAATGTAGTTGGCTTTAAATAGCCAACAAATAGG - 7500
     - Y  H  F  H  H  T  *  A  *  M  *  L  A  L  N  S  Q  Q  N  R
     - T  I  F  I  I  L  E  H  K  C  S  W  L  *  I  A  N  K  I  G
     - P  F  S  S  Y  L  S  I  N  V  V  G  F  K  *  P  T  K  *  A
7501 - CTGCAGCTGACGTGCCCCAAATGTCTTGAGCAGGTGAAAAGGCTGTAAGAATGGCTCTAA - 7560
     - L  Q  L  T  C  P  K  C  L  E  Q  V  K  R  L  *  E  W  L  *
     - C  S  *  R  A  P  N  V  L  S  R  *  K  G  C  K  N  G  S  K
     - A  A  D  V  P  Q  M  S  *  A  G  E  K  A  V  R  M  A  L  K
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FIG. 12 Con't

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7561 - AATTTGTAATGTTAATACCAAGAGGCAACTTAAAAATAGGTTTCAAAGTGTTAAAACCAG - 7620
     - N  L  *  C  *  Y  Q  E  A  T  *  K  *  V  S  K  C  *  N  Q
     - I  C  N  V  N  T  K  R  Q  L  K  N  R  F  Q  S  V  K  T  R
     - F  V  M  L  I  P  R  G  N  L  K  I  G  F  K  V  L  K  P  E
7621 - AAGGTAGATCACGAACTACATCTATAGGTTGATAGCCCTTATAAACATAGAGAAACCCAT - 7680
     - K  V  D  H  E  L  H  L  *  V  D  S  P  Y  K  H  R  E  T  H
     - R  *  I  T  N  Y  I  Y  R  L  I  A  L  I  N  I  E  K  P  I
     - G  R  S  R  T  T  S  I  G  *  *  P  L  *  T  *  R  N  P  S
7681 - CTTTATTTTTAAACACAAACTCTCGTAAGTGTTTAAAATTACCTGACTTTTCTGAAACAT - 7740
     - L  Y  F  *  T  Q  T  L  V  S  V  *  N  Y  L  T  F  L  K  H
     - F  I  F  K  H  K  L  S  *  V  F  K  I  T  *  L  F  *  N  I
     - L  F  L  N  T  N  S  R  K  C  L  K  L  P  D  F  S  E  T  S
7741 - CAAGCGAAAAGGCATCAGATATGTACTCGAAAGTGCAATTAAATGCATTATCGAATATCA - 7800
     - Q  A  K  R  H  Q  I  C  T  R  K  C  N  *  M  H  Y  R  I  S
     - K  R  K  G  I  R  Y  V  L  E  S  A  I  K  C  I  I  E  Y  H
     - S  E  K  A  S  D  M  Y  S  K  V  Q  L  N  A  L  S  N  I  I
7801 - TAGTATGTGTCTGTGTACCCATGGGTTTAGAAACAGCAAAGAAAGGGTTGTCACACAATT - 7860
     - *  Y  V  S  V  Y  P  W  V  *  K  Q  Q  R  K  G  C  H  T  I
     - S  M  C  L  C  T  H  G  F  R  N  S  K  E  R  V  V  T  Q  F
     - V  C  V  C  V  P  M  G  L  E  T  A  K  K  G  L  S  H  N  S
7861 - CAAAGTTACATGCTCGTATAACAACATTAGTAGAATTGTTAATAATAATCACCGACTGTG - 7920
     - Q  S  Y  M  L  V  *  Q  H  *  *  N  C  *  *  *  S  P  T  V
     - K  V  T  C  S  Y  N  N  I  S  R  I  V  N  N  N  H  R  L  *
     - K  L  H  A  R  I  T  T  L  V  E  L  L  I  I  I  T  D  C  D
7921 - ACTTGTTGTTCATGGTAGAACCAAAAACCCAACCACGGACAACATTTGATTTCTCTGTGG - 7980
     - T  C  C  S  W  *  N  Q  K  P  N  H  G  Q  H  L  I  S  L  W
     - L  V  V  H  G  R  T  K  N  P  T  T  D  N  I  *  F  L  C  G
     - L  L  F  M  V  E  P  K  T  Q  P  R  T  T  F  D  F  S  V  A
7981 - CAGCAAAATAAATACCATCCTTAAAAGGTATGACAGGGTTGCCAAACGTATGATTAATAG - 8040
     - Q  Q  N  K  Y  H  P  *  K  V  *  Q  G  C  Q  T  Y  D  *  *
     - S  K  I  N  T  I  L  K  R  Y  D  R  V  A  K  R  M  I  N  S
     - A  K  *  I  P  S  L  K  G  M  T  G  L  P  N  V  *  L  I  V
8041 - TATGAAACCCTGTAACATTAGAATAAAATGGAAGAAATAAATCCTGAGTTAAATAAAGAG - 8100
     - Y  E  T  L  *  H  *  N  K  M  E  E  I  N  P  E  L  N  K  E
     - M  K  P  C  N  I  R  I  K  W  K  K  *  I  L  S  *  I  K  S
     - *  N  P  V  T  L  E  *  N  G  R  N  K  S  *  V  K  *  R  V
8101 - TGTCTGATCTAAAAATTTCATCAGGATAGTAAACCCCCCTCATAGATGAAGTATGTTGAG - 8160
     - C  L  I  *  K  F  H  Q  D  S  K  P  P  S  *  M  K  Y  V  E
     - V  *  S  K  N  F  I  R  I  V  N  P  P  H  R  *  S  M  L  S
     - S  D  L  K  I  S  S  G  *  *  T  P  L  I  D  E  V  C  *  V
8161 - TGTAATTAGGAGCTTGAACATCATCAAAAGTGGTGCACCGGTCAAGGTCACTACCACTAG - 8220
     - C  N  *  E  L  E  H  H  Q  K  W  C  T  G  Q  G  H  Y  H  *
     - V  I  R  S  L  N  I  I  K  S  G  A  P  V  K  V  T  T  T  S
     - *  L  G  A  *  T  S  S  K  V  V  H  R  S  R  S  L  P  L  V
8221 - TGAGAGTAAGAAATAATAAGAAAATAAACATGTTCGTTTAGTTGTTAACAAGAATATCAC - 8280
     - *  E  *  E  I  I  R  K  *  T  C  S  F  S  C  *  Q  E  Y  H
     - E  S  K  K  *  *  E  N  K  H  V  R  L  V  V  N  K  N  I  T
     - R  V  R  N  N  K  K  I  N  M  F  V  *  L  L  T  R  I  S  L
8281 - TTGAAACCACAACTCTGTTGTTTTCTCTAATGATAAGCCTACCTTTTTCCAGAAGAGAAT - 8340
     - L  K  P  Q  L  C  C  F  L  *  *  *  A  Y  L  F  P  E  E  N
     - *  N  H  N  S  V  V  F  S  N  D  K  P  T  F  F  Q  K  R  I
     - E  T  T  T  L  L  F  S  L  M  I  S  L  P  F  S  R  R  E  *
8341 - AAATCATATCATTGATTTGATTCTCCTTAAGAGACATTACAGCAGTTCCTCTTAATTTAA - 8400
     - K  S  Y  H  *  F  D  S  P  *  E  T  L  Q  Q  F  L  L  I  *
     - N  H  I  I  D  L  I  L  L  K  R  H  Y  S  S  S  S  *  F  K
     - I  I  S  L  I  *  F  S  L  R  D  I  T  A  V  P  L  N  L  R
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FIG. 12 Con't

8401 - GAGGAAATTTGCTCATGTCAAAGAGTGAATAGGAAGACAACTGGATAGGATTTGTGTTCC - 8460
- E E I C S C Q R V N R K T T G * D L C S
- R K F A H V K E * I G R Q L D R I C V P
- G N L L M S K S E * E D N W I G F V F L

8461 - TCCAGAAAATGTAGTTAGCATGCATGGTATAGCCATCAATTTGTTCCTTCGGCTTGCCAA - 8520
- S R K C S * H A W Y S H Q F V P S A C Q
- P E N V V S M H G I A I N L F L R L A K
- Q K M * L A C M V * P S I C S F G L P R

8521 - GATAGTTAGCCCCAATTAAAAATGCTTCCGATGATGATGCATTTACATTTGTAACAAAAG - 8580
- D S * P Q L K M L P M M M H L H L * Q K
- I V S P N * K C F R * * C I Y I C N K S
- * L A P I K N A S D D D A F T F V T K A

8581 - CTGTCCACCATGAGAAATGGCCCATAAGCTTGTAAAGGTCAGCATTCCAAGAATGCTCTG - 8640
- L S T M R N G P * A C K G Q H S K N A L
- C P P * E M A H K L V K V S I P R M L C
- V H H E K W P I S L * R S A F Q E C S V

8641 - TTATCTTTACAGCTATAGAACCACCCAGGGCTAGTTTTTGCTTTATAAATCCACACAGAT - 8700
- L S L Q L * N H P G L V F A L * I H T D
- Y L Y S Y R T T Q G * F L L Y K S T Q I
- I F T A I E P P R A S F C F I N P H R *

8701 - AAGTGAAAAACCCTTCTTTAGAGTCATTCTCTTTTGTCACATGTTTGGTCCTAGGGTCAT - 8760
- K * K T L L * S H S L L S H V W S * G H
- S E K P F F R V I L F C H M F G P R V I
- V K N P S L E S F S F V T C L V L G S Y

8761 - ACATATCGCTAATAATAAGGTCCCATTTATTAGCCGTATGTACTGTTGCACAGTCTCCAA - 8820
- T Y R * * * G P I Y * P , Y V L L H S L Q
- H I A N N K V P F I S R M Y C C T V S N
- I S L I I R S H L L A V C T V A Q S P I

8821 - TTAAAGTAGAATCTGCGTCGGAGACGAAGTCATTAAGATCTGAATCGACAAGTAGTGTGC - 8880
- L K * N L R R R R S H * D L N R Q V V C
- * S R I C V G D E V I K I * I D K * C A
- K V E S A S E T K S L R S E S T S S V P

8881 - CAGTTGGCAACCATTGTCTGAGCACAGCTGTACCTGGTGCAACTCCTTATCAGAGCCAG - 8940
- Q L A T I V * A Q L Y L V Q L L Y Q S Q
- S W Q P L S E H S C T W C N S F I R A S
- V G N H C L S T A V P G A T P L S E P A

8941 - CACCAAAGTGAATAACTCTCATGTTGTAGGGTACAGCTAAAGTAAGTGTATTTAAGTATT - 9000
- H Q S E * L S C C R V Q L K * V Y L S I
- T K V N N S H V V G Y S * S K C I * V L
- P K * I T L M L * G T A K V S V F K Y *

9001 - GACACAGTTGAGTATACTTTGCGACATTCATCATTATTCCTTTTGGTATAACAGCATTTT - 9060
- D T V E Y T L R H S S L F L L V * Q H F
- T Q L S I L C D I H H Y S F W Y N S I F
- H S * V Y F A T F I I I P F G I T A F S

9061 - CACCATAATTCTGAAGGTCACACTTTTCAAGAAGCATTCTTTGCATCTTGTACAAGTTAG - 9120
- H H N S E G H T F Q E A F F A S C T S *
- T I I L K V T L F K K H S L H L V Q V R
- P * F * R S H F S R S I L C I L Y K L G

9121 - GCATCGCAACACCTGGTTGCCACGCTTGACTTGCTTGTAGTTTTGGGTAGAAGGTTTCAA - 9180
- A S Q H L V A T L D L L V V L G R R F Q
- H R N T W L P R L T C L * F W V E G F N
- I A T P G C H A * L A C S F G * K V S T

9181 - CATGTCCATCCTTACACCAAAGCATGAATGAAATTTCAGCATAGTCAATTGTAACCTTGA - 9240
- H V H P Y T K A * M K F Q H S Q L * P *
- M S I L T P K H E * N F S I V N C N L D
- C P S L H Q S M N E I S A * S I V T L T

FIG. 12 Con't

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9241 - CCACTTTTGAAATCACTGACAAATCTTGTGACTTTATTATCTCGACAAAGTCATCAAGTA - 9300
     - P  L  L  K  S  L  T  N  L  V  T  L  L  S  R  Q  S  H  Q  V
     - H  F  *  N  H  *  Q  I  L  *  L  Y  Y  L  D  K  V  I  K  *
     - T  F  E  I  T  D  K  S  C  D  F  I  I  S  T  K  S  S  S  K
9301 - AAAGATCAATCACAGAACACACACATTTTGATGAACCTGTTTGCGCATCTGTTATGAAGT - 9360
     - K  D  Q  S  Q  N  T  H  I  L  M  N  L  F  A  H  L  L  *  S
     - K  I  N  H  R  T  H  T  F  *  *  T  C  L  R  I  C  Y  E  V
     - R  S  I  T  E  H  T  H  F  D  E  P  V  C  A  S  V  M  K  *
9361 - AATTTTTCACTGTGCTGTCCATAGGGATAAAATCCTCTAATTTAAGTGGTGAATCTTGTG - 9420
     - N  F  S  L  C  C  P  *  G  *  N  P  L  I  *  V  V  N  L  V
     - I  F  H  C  A  V  H  R  D  K  I  L  *  F  K  W  *  I  L  *
     - F  F  T  V  L  S  I  G  I  K  S  S  N  L  S  G  E  S  C  E
9421 - AGCGCTTGGCTAAGCCTATCATTAAATGAAGACCGCCAAGTTGTCCATGACTGAAATCTC - 9480
     - S  A  W  L  S  L  S  L  N  E  D  R  Q  V  V  H  D  *  N  L
     - A  L  G  *  A  Y  H  *  M  K  T  A  K  L  S  M  T  E  I  S
     - R  L  A  K  P  I  I  K  *  R  P  P  S  C  P  *  L  K  S  P
9481 - CATAAACGATGTGTTCGAAGGCATAGCCCTCGAGCTTATATCGCTGTATGAATTCATCCA - 9540
     - H  K  R  C  V  R  R  H  S  P  R  A  Y  I  A  V  *  I  H  P
     - I  N  D  V  F  E  G  I  A  L  E  L  I  S  L  Y  E  F  I  H
     - *  T  M  C  S  K  A  *  P  S  S  L  Y  R  C  M  N  S  S  I
9541 - TAGCGAGCTCGAGAAAGTCAGTTTCCATTTGTGATCTGGGCTTAAAATCCTCTAAGTCTC - 9600
     - *  R  A  R  E  S  Q  F  P  F  V  I  W  A  *  N  P  L  S  L
     - S  E  L  E  K  V  S  F  H  L  *  S  G  L  K  I  L  *  V  S
     - A  S  S  R  K  S  V  S  I  C  D  L  G  L  K  S  S  K  S  L
9601 - TGCTCTGAGTAAAGTAGGTTTCAGGCAACTGTTGAATAATGCCGTCTACTTTCTTAAAGT - 9660
     - C  S  E  *  S  R  F  Q  A  T  V  E  *  C  R  L  L  S  *  S
     - A  L  S  K  V  G  F  R  Q  L  L  N  N  A  V  Y  F  L  K  V
     - L  *  V  K  *  V  S  G  N  C  *  I  M  P  S  T  F  L  K  *
9661 - AGTTAAACTGTGTTTTTACTGATTCTCCAATTAATGTGACTCCATTGACGCTAGCTTGTG - 9720
     - S  *  T  V  F  L  L  I  L  Q  L  M  *  L  H  *  R  *  L  V
     - V  K  L  C  F  Y  *  F  S  N  *  C  D  S  I  D  A  S  L  C
     - L  N  C  V  F  T  D  S  P  I  N  V  T  P  L  T  L  A  C  A
9721 - CTGGTCCCTTTGAAGGTGTTAGACCTTTGACTGAACCTTCTGTTATTAAAACACCATTAC - 9780
     - L  V  P  L  K  V  L  D  L  *  L  N  L  L  L  L  K  H  H  Y
     - W  S  L  *  R  C  *  T  F  D  *  T  F  C  Y  *  N  T  I  T
     - G  P  F  E  G  V  R  P  L  T  E  P  S  V  I  K  T  P  L  R
9781 - GGGCGTTTCTAAAAAGGTCTACCTGTCCTTCCACTCTACCATCAAACAAGACAGTAAGTG - 9840
     - G  R  F  *  K  G  L  P  V  L  P  L  Y  H  Q  T  R  Q  *  V
     - G  V  S  K  K  V  Y  L  S  F  H  S  T  I  K  Q  D  S  K  *
     - A  F  L  K  R  S  T  C  P  S  T  L  P  S  N  K  T  V  S  E
9841 - AAGAACAAGCACTCTCAGTAGGTTTCTTGGCAATGTCAGTCATTGTGCAGACACCTATTG - 9900
     - K  N  K  H  S  Q  *  V  S  W  Q  C  Q  S  L  C  R  H  L  L
     - R  T  S  T  L  S  R  F  L  G  N  V  S  H  C  A  D  T  Y  C
     - E  Q  A  L  S  V  G  F  L  A  M  S  V  I  V  Q  T  P  I  V
9901 - TAGATACATGTGCTGGGGCTTCTCTTTTGTAGTCCCAGATTACAGTATTAGCAGCGATAT - 9960
     - *  I  H  V  L  G  L  L  F  C  S  P  R  L  Q  Y  *  Q  R  Y
     - R  Y  M  C  W  G  F  S  F  V  V  P  D  Y  S  I  S  S  D  I
     - D  T  C  A  G  A  S  L  L  *  S  Q  I  T  V  L  A  A  I  S
9961 - CAACACCCAAATTATTGAGTATCTTAATCTCTGGCACTGGTTTAATGTTACGCTTAGCCC - 10020
     - Q  H  P  N  Y  *  V  S  *  S  L  A  L  V  *  C  Y  A  *  P
     - N  T  Q  I  I  E  Y  L  N  L  W  H  W  F  N  V  T  L  S  P
     - T  P  K  L  L  S  I  L  I  S  G  T  G  L  M  L  R  L  A  Q
10021 - AAAGCTCAAATGCAACATTAACAGGAAGTGTTGTCTTATTTTCAAAGATCTCCACATCAA - 10080
     - K  A  Q  M  Q  H  *  Q  E  V  L  S  Y  F  Q  R  S  P  H  Q
     - K  L  K  C  N  I  N  R  K  C  C  L  I  F  K  D  L  H  I  N
     - S  S  N  A  T  L  T  G  S  V  V  L  F  S  K  I  S  T  S  I
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FIG. 12 Con't

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10081 - TACCATCTACCTTTGTGTAAACAGCATTATTAATGATGGAAACAGGTGCTTCGCCGGCGT - 10140
       - Y  H  L  P  L  C  K  Q  H  Y  *  *  W  K  Q  V  L  R  R  R
       - T  I  Y  L  C  V  N  S  I  I  N  D  G  N  R  C  F  A  G  V
       - P  S  T  F  V  *  T  A  L  L  M  M  E  T  G  A  S  P  A  C
10141 - GTCCATCAAAGTGTCCTTTATTAACAACATTATAAGCCACATTTTCTAAACTCTGTAACC - 10200
       - V  H  Q  S  V  L  Y  *  Q  H  Y  K  P  H  F  L  N  S  V  T
       - S  I  K  V  S  F  I  N  N  I  I  S  H  I  F  *  T  L  *  P
       - P  S  K  C  P  L  L  T  T  L  *  A  T  F  S  K  L  C  N  L
10201 - TGGTAAATGTATTCCACAGGTTATAAGTATCAAATTGTTTGTAAATCCATAGGCTAAATC - 10260
       - W  *  M  Y  S  T  G  Y  K  Y  Q  I  V  C  K  S  I  G  *  I
       - G  K  C  I  P  Q  V  I  S  I  K  L  F  V  N  P  *  A  K  S
       - V  N  V  F  H  R  L  *  V  S  N  C  L  *  I  H  R  L  N  P
10261 - CAGCAGAAATCATCATATTATATGCATCCAAGTACTGTCGGTACTCATTTGCATGGTGTC - 10320
       - Q  Q  K  S  S  Y  Y  M  H  P  S  T  V  G  T  H  L  H  G  V
       - S  R  N  H  H  I  I  C  I  Q  V  L  S  V  L  I  C  M  V  S
       - A  E  I  I  I  L  Y  A  S  K  Y  C  R  Y  S  F  A  W  C  L
10321 - TGCAAACAGCACCACCTAAATTGCATCGTGTAATACACGTAGCAGATTTGAGTGGAACAT - 10380
       - C  K  Q  H  H  L  N  C  I  V  *  Y  T  *  Q  I  *  V  E  H
       - A  N  S  T  T  *  I  A  S  C  N  T  R  S  R  F  E  W  N  I
       - Q  T  A  P  P  K  L  H  R  V  I  H  V  A  D  L  S  G  T  *
10381 - AATCAATATCCGACACTACTTGTTTGCCATGAGACTCACAAGGACTATCAGAATAGTAAA - 10440
       - N  Q  Y  P  T  L  L  V  C  H  E  T  H  K  D  Y  Q  N  S  K
       - I  N  I  R  H  Y  L  F  A  M  R  L  T  R  T  I  R  I  V  K
       - S  I  S  D  T  T  C  L  P  *  D  S  Q  G  L  S  E  *  *  K
10441 - AGAAAGGCAATTGCTTTAAATTAGTAAATGCACTTTTATCGAAAGCTGGAGTGTGGAATG - 10500
       - R  K  A  I  A  L  N  *  *  M  H  F  Y  R  K  L  E  C  G  M
       - E  R  Q  L  L  *  I  S  K  C  T  F  I  E  S  W  S  V  E  C
       - K  G  N  C  F  K  L  V  N  A  L  L  S  K  A  G  V  W  N  A
10501 - CATGCTTATTCACATACAAACTACCACCATCACAGCCTGGTAAGTTCAAGTTTGACAAGA - 10560
       - H  A  Y  S  H  T  N  Y  H  H  H  S  L  V  S  S  L  T  R
       - M  L  I  H  I  Q  T  T  T  I  T  A  W  *  V  Q  V  *  Q  D
       - C  L  F  T  Y  K  L  P  P  S  Q  P  G  K  F  K  F  D  K  T
10561 - CTCTTGTGTCAAACCTACACACAATTGCATTGGCTGGGTAACGATCAACGTTACAATTCC - 10620
       - L  L  C  Q  T  Y  T  Q  L  H  W  L  G  N  D  Q  R  Y  N  S
       - S  C  V  K  P  T  H  N  C  I  G  W  V  T  I  N  V  T  I  P
       - L  V  S  N  L  H  T  I  A  L  A  G  *  R  S  T  L  Q  F  Q
10621 - AAAACAAACAAACACCATCAGTGAATTTATCGTGATGTGTAGCATAAGAATAGAAGAGTT - 10680
       - K  T  N  K  H  H  Q  *  I  Y  R  D  V  *  H  K  N  R  R  V
       - K  Q  T  N  T  I  S  E  F  I  V  M  C  S  I  R  I  E  E  F
       - N  K  Q  T  P  S  V  N  L  S  *  C  V  A  *  E  *  K  S  S
10681 - CCTCTATTTTGTAAGCTTTGTCACTACATGGCTGAGCATCGTAGAACTTCCATTCTACTT - 10740
       - P  L  F  C  K  L  C  H  Y  M  A  E  H  R  R  T  S  I  L  L
       - L  Y  F  V  S  F  V  T  T  W  L  S  I  V  E  L  P  F  Y  F
       - S  I  L  *  A  L  S  L  H  G  *  A  S  *  N  F  H  S  T  S
10741 - CAGCTGAGGCACACACTTGATAGCCTTTGGATTCCAATGTCATGAAGAACTGGAAACT - 10800
       - Q  P  E  A  H  T  *  *  P  L  D  F  Q  C  H  E  E  L  E  T
       - S  L  R  H  T  L  D  S  L  W  I  S  N  V  M  K  N  W  K  L
       - A  *  G  T  H  L  I  A  F  G  F  P  M  S  *  R  T  G  N  L
10801 - TATCAGCAAGCAATGCAGACTTCACAACCATGTGTTGTACTTTTCTGCAAGCAGAATTAA - 10860
       - Y  Q  Q  A  M  Q  T  S  Q  P  C  V  V  L  F  C  K  Q  N  *
       - I  S  K  Q  C  R  L  H  N  H  V  L  Y  F  S  A  S  R  I  N
       - S  A  S  N  A  D  F  T  T  M  C  C  T  F  L  Q  A  E  L  T
10861 - CCCTCAGTTCATCTCCTATAATAGGGTATTCAACAGACCAATCAACGCGCTTAACAAAGC - 10920
       - P  S  V  H  L  L  *  *  G  I  Q  Q  T  N  Q  R  A  *  Q  S
       - P  Q  F  I  S  Y  N  R  V  F  N  R  P  I  N  A  L  N  K  A
       - L  S  S  S  P  I  I  G  Y  S  T  D  Q  S  T  R  L  T  K  H
```

FIG. 12 Con't

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10921 - ACTCATGGACTGCTAAACATCTAGTCATGATAGCATCACAACTAGCCACATGTGCATTTC - 10980
      - T  H  G  L  L  N  I  *  S  *  *  H  H  N  *  P  H  V  H  F
      - L  M  D  C  *  T  S  S  H  D  S  I  T  T  S  H  M  C  I  S
      -  S  W  T  A  K  H  L  V  M  I  A  S  Q  L  A  T  C  A  F  P
10981 - CATGTACCTGGCAATGTTGGTCATGGTTACTCTGAAGGTTACCCGTAAAGCCCCACTGCT - 11040
      - H  V  P  G  N  V  G  H  G  Y  S  E  G  Y  P  *  S  P  T  A
      - M  Y  L  A  M  L  V  M  V  T  L  K  V  T  R  K  A  P  L  L
      -  C  T  W  Q  C  W  S  W  L  L  *  R  L  P  V  K  P  H  C  *
11041 - GAACATCAATCATAAATGGGTTATAGACATAGTCAAAACCCACAGAATGATTCCAGCAGG - 11100
      - E  H  Q  S  *  M  G  Y  R  H  S  Q  N  P  Q  N  D  S  S  R
      - N  I  N  H  K  W  V  I  D  I  V  K  T  H  R  M  I  P  A  G
      -  T  S  I  I  N  G  L  *  T  *  S  K  P  T  E  *  F  Q  Q  A
11101 - CATAAGTATCTGATGAAGTAGAAAAGCAAGTTGCACGTTTGTCACACAGACAACACGTTC - 11160
      - H  K  Y  L  M  K  *  K  S  K  L  H  V  C  H  T  D  N  T  F
      - I  S  I  *  *  S  R  K  A  S  C  T  F  V  T  Q  T  T  R  S
      -  *  V  S  D  E  V  E  K  Q  V  A  R  L  S  H  R  Q  H  V  L
11161 - TTTCAGGTCCAATCTTGACAAAGTACTTCATTGATGTAAGCTCAAAGCCATGCGCCCAAA - 11220
      - F  Q  V  Q  S  *  Q  S  T  S  L  M  *  A  Q  S  H  A  P  K
      - F  R  S  N  L  D  K  V  L  H  *  C  K  L  K  A  M  R  P  K
      -  S  G  P  I  L  T  K  Y  F  I  D  V  S  S  K  P  C  A  Q  R
11221 - GGACGAACACGACTCTGTCTGACAATCCTTTCAGTGTATCACTGAGCATTTGTACTATCT - 11280
      - G  R  T  R  L  C  L  T  I  L  S  V  Y  H  *  A  F  V  L  S
      - D  E  H  D  S  V  *  Q  S  F  Q  C  I  T  E  H  L  Y  Y  L
      -  T  N  T  T  L  S  D  N  P  F  S  V  S  L  S  I  C  T  I  L
11281 - TAATACGCACTACATTCCAGGGCAAGCCTTTATACATGAGTGGTATAAGATGTTTAAACT - 11340
      - *  Y  A  L  H  S  R  A  S  L  Y  T  *  V  V  *  D  V  *  T
      - N  T  H  Y  I  P  G  Q  A  F  I  H  E  W  Y  K  M  F  K  L
      -  I  R  T  T  F  Q  G  K  P  L  Y  M  S  G  I  R  C  L  N  W
11341 - GGTCACCTGGTGGAGGTTTTGCATTAACTCTGGTGAATTCTGTGTTATTTTCAGTGTCAA - 11400
      - G  H  L  V  E  V  L  H  *  L  W  *  I  L  C  Y  F  Q  C  Q
      - V  T  W  W  R  F  C  I  N  S  G  E  F  C  V  I  F  S  V  N
      -  S  P  G  G  G  F  A  L  T  L  V  N  S  V  L  F  S  V  S  T
11401 - CATAACCAGTCGGTACAGCTACTAAGTTAACACCTGTAGAAAATCCTAGCTGGAGAGGTA - 11460
      - H  N  Q  S  V  Q  L  L  S  *  H  L  *  K  I  L  A  G  E  V
      - I  T  S  R  Y  S  Y  *  V  N  T  C  R  K  S  *  L  E  R  *
      -  *  P  V  G  T  A  T  K  L  T  P  V  E  N  P  S  W  R  G  R
11461 - GGTTAGTACCCACAGCATCTCTAGTTGCATGACAGCCCTCTACATCAAAGCCAATCCACG - 11520
      - G  *  Y  P  Q  H  L  *  L  H  D  S  P  L  H  Q  S  Q  S  T
      - V  S  T  H  S  I  S  S  C  M  T  A  L  Y  I  K  A  N  P  R
      -  L  V  P  T  A  S  L  V  A  *  Q  P  S  T  S  K  P  I  H  A
11521 - CACGAACGTGACGAATAGCTTCTTCGCGGGTGATAAACATATTAGGGTAACCATTGACTT - 11580
      - H  E  R  D  E  *  L  L  R  G  *  *  T  Y  *  G  N  H  *  L
      - T  N  V  T  N  S  F  F  A  G  D  K  H  I  R  V  T  I  D  L
      -  R  T  *  R  I  A  S  S  R  V  I  N  I  L  G  *  P  L  T  W
11581 - GGTAATTCATTTTGAAACCCATCATAGAGATGAGTCTACGGTAGGTCATGTCCTTTGGTA - 11640
      - G  N  S  F  *  N  P  S  *  R  *  V  Y  G  R  S  C  P  L  V
      - V  I  H  F  E  T  H  H  R  D  E  S  T  V  G  H  V  L  W  Y
      -  *  F  I  L  K  P  I  I  E  M  S  L  R  *  V  M  S  F  G  M
11641 - TGCCTGGTATGTCAACACATAATCCTTCAGTCTTGAATTTTATATCAACGCTGAGGTGTG - 11700
      - C  L  V  C  Q  H  I  I  L  Q  S  *  I  L  Y  Q  R  *  G  V
      - A  W  Y  V  N  T  *  S  F  S  L  E  F  Y  I  N  A  E  V  C
      -  P  G  M  S  T  H  N  P  S  V  L  N  F  I  S  T  L  R  C  V
11701 - TAGGTGCCTGTGTAGGATGAAGACCAGTAATGATCTTACTACAGTCCTTAAAAAGTCCAG - 11760
      - *  V  P  V  *  D  E  D  Q  *  *  S  Y  Y  S  P  *  K  V  Q
      - R  C  L  C  R  M  K  T  S  N  D  L  T  T  V  L  K  K  S  S
      -  G  A  C  V  G  *  R  P  V  M  I  L  L  Q  S  L  K  S  P  V
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FIG. 12 Con't

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11761 - TTACATTTTCTGCTTGTAATGTAGCCACATTGCGACGTGGTATTTCTAGACTTGTAAATT - 11820
       - L  H  F  L  L  V  M  *  P  H  C  D  V  V  F  L  D  L  *  I
       - Y  I  F  C  L  *  C  S  H  I  A  T  W  Y  F  *  T  C  K  L
       - T  F  S  A  C  N  V  A  T  L  R  R  G  I  S  R  L  V  N  C
11821 - GCAGTTTGTCATAAAGATCTCTATCAGACATTATGCACAAAATGCCAATTTTTGCCCTTG - 11880
       - A  V  C  H  K  D  L  Y  Q  T  L  C  T  K  C  Q  F  L  P  L
       - Q  F  V  I  K  I  S  I  R  H  Y  A  Q  N  A  N  F  C  P  C
       - S  L  S  *  R  S  L  S  D  I  M  H  K  M  P  I  F  A  L  V
11881 - TGATAGCCACATTGAAGCGGTTGACATTACAAGAGTGTGCTGTTTCAGTAGTTTGTGTGA - 11940
       - *  *  P  H  *  S  G  *  H  Y  K  S  V  L  F  Q  *  F  V  *
       - D  S  H  I  E  A  V  D  I  T  R  V  C  C  F  S  S  L  C  E
       - I  A  T  L  K  R  L  T  L  Q  E  C  A  V  S  V  V  C  V  N
11941 - ATATGACATAGTCATATTCAGAACCCTGTGATGAATCAACAGTCTGCGTAGGCAATCCTA - 12000
       - I  *  H  S  H  I  Q  N  P  V  M  N  Q  Q  S  A  *  A  I  L
       - Y  D  I  V  I  F  R  T  L  *  *  I  N  S  L  R  R  Q  S  *
       - M  T  *  S  Y  S  E  P  C  D  E  S  T  V  C  V  G  N  P  K
12001 - AGATTTTTGAAGCTACAGCGTTCTGTGAATTATAAGGTGAGATAAAAACAGCTTTTCTCC - 12060
       - R  F  L  K  L  Q  R  S  V  N  Y  K  V  R  *  K  Q  L  F  S
       - D  F  *  S  Y  S  V  L  *  I  I  R  *  D  K  N  S  F  S  P
       - I  F  E  A  T  A  F  C  E  L  *  G  E  I  K  T  A  F  L  Q
12061 - AAGCAGGATTGCGTGTAAGAAATTCTCTTACAACGCCTATTTGAGGTCTGTTGATTGCAG - 12120
       - K  Q  D  C  V  *  E  I  L  L  Q  R  L  F  E  V  C  *  L  Q
       - S  R  I  A  C  K  K  F  S  Y  N  A  Y  L  R  S  V  D  C  R
       - A  G  L  R  V  R  N  S  L  T  T  P  I  *  G  L  L  I  A  D
12121 - ATGAAACATCATGTGTAATAACACCTTTGTAGAACATTTTGAAGCATTGAGCTGACTTAT - 12180
       - M  K  H  H  V  *  *  H  L  C  R  T  F  *  S  I  E  L  T  Y
       - *  N  I  M  C  N  N  T  F  V  E  H  F  E  A  L  S  *  L  I
       - E  T  S  C  V  I  T  P  L  *  N  I  L  K  H  *  A  D  L  S
12181 - CCTTGTGTGCTTTTAGCTTATTGTCATAAACTAAAGCACTCACAGTGTCAACAATTTCAG - 12240
       - P  C  V  L  L  A  Y  C  H  K  L  K  H  S  Q  C  Q  Q  F  Q
       - L  V  C  F  *  L  I  V  I  N  *  S  T  H  S  V  N  N  F  S
       - L  C  A  F  S  L  L  S  *  T  K  A  L  T  V  S  T  I  S  A
12241 - CAGGACAACGGCGACAAGTTCCAAGGAACATGTCTGGACCTATTGTTTTCATAAGTCTGC - 12300
       - Q  D  N  G  D  K  F  Q  G  T  C  L  D  L  L  F  S  *  V  C
       - R  T  T  A  T  S  S  K  E  H  V  W  T  Y  C  F  H  K  S  A
       - G  Q  R  R  Q  V  P  R  N  M  S  G  P  I  V  F  I  S  L  H
12301 - ACACTGAATTAAAATATTCTGGTTCTAGTGTGCCTTTAGTCAGCAATGTGCGGGGGGCTG - 12360
       - T  L  N  *  N  I  L  V  L  V  C  L  *  S  A  M  C  G  G  L
       - H  *  I  K  I  F  W  F  *  C  A  F  S  Q  Q  C  A  G  G  W
       - T  E  L  K  Y  S  G  S  S  V  P  L  V  S  N  V  R  G  A  G
12361 - GTAATTGAGCAGGATCGCCAATATAGACGTAGTGTTTTGCACGAAGTCTAGCATTGACAA - 12420
       - V  I  E  Q  D  R  Q  Y  R  R  S  V  L  H  E  V  *  H  *  Q
       - *  L  S  R  I  A  N  I  D  V  V  F  C  T  K  S  S  I  D  N
       - N  *  A  G  S  P  I  *  T  *  C  F  A  R  S  L  A  L  T  T
12421 - CACTCAAGTCATAATTAGTAGCCATAGAGATTTCATCAAAGACTACAATGTCAGCAGTTG - 12480
       - H  S  S  H  N  *  *  P  *  R  F  H  Q  R  L  Q  C  Q  Q  L
       - T  Q  V  I  I  S  S  H  R  D  F  I  K  D  Y  N  V  S  S  C
       - L  K  S  *  L  V  A  I  E  I  S  S  K  T  T  M  S  A  V  V
12481 - TTTCTGGCAATGCATTTACAGTGCAGAAAACATACTGTTCTAGTGTTGAATTCACTTTGA - 12540
       - F  L  A  M  H  L  Q  C  R  K  H  T  V  L  V  L  N  S  L  *
       - F  W  Q  C  I  Y  S  A  E  N  I  L  F  *  C  *  I  H  F  E
       - S  G  N  A  F  T  V  Q  K  T  Y  C  S  S  V  E  F  T  L  N
12541 - ATTTATCAAAACACTCTACGCGCGCACGCGCAGGTATGATTCTACTACATTTATCTATGG - 12600
       - I  Y  Q  N  T  L  R  A  H  A  Q  V  *  F  Y  Y  I  Y  L  W
       - F  I  K  T  L  Y  A  R  T  R  R  Y  D  S  T  T  F  I  Y  G
       - L  S  K  H  S  T  R  A  R  A  G  M  I  L  L  H  L  S  M  G
```

FIG. 12 Con't

```
12601 - GCAAATATTTTAATGCCTTTTCACATAGGGCATCAACAGCTGCATGAGAGCATGCCGTAT - 12660
       - A  N  I  L  M  P  F  H  I  G  H  Q  Q  L  H  E  S  M  P  Y
       - Q  I  F  *  C  L  F  T  *  G  I  N  S  C  M  R  A  C  R  I
       - K  Y  F  N  A  F  S  H  R  A  S  T  A  A  *  E  H  A  V  Y
12661 - ACACTATGCGAGCAGATGGGTAATAGAGAGCAAGTCCGATGGCAAAATGACTCTTACCAG - 12720
       - T  L  C  E  Q  M  G  N  R  E  Q  V  R  W  Q  N  D  S  Y  Q
       - H  Y  A  S  R  W  V  I  E  S  K  S  D  G  K  M  T  L  T  S
       - T  M  R  A  D  G  *  *  R  A  S  P  M  A  K  *  L  L  P  V
12721 - TACCAGGTGGTCCTTGGAGTGTAGAGTACTTTTGCATGCCGACCTTTTGATAATTTGCAA - 12780
       - Y  Q  V  V  L  G  V  *  S  T  F  A  C  R  P  F  D  N  L  Q
       - T  R  W  S  L  E  C  R  V  L  L  H  A  D  L  L  I  I  C  N
       - P  G  G  P  W  S  V  E  Y  F  C  M  P  T  F  *  *  F  A  T
12781 - CATTGCTAGAAAACTCATCTGAGATGTTGAGTGTTGGGTACAAGCCAGTAATTCTCACAT - 12840
       - H  C  *  K  T  H  L  R  C  *  V  L  G  T  S  Q  *  F  S  H
       - I  A  R  K  L  I  *  D  V  E  C  W  V  Q  A  S  N  S  H  I
       - L  L  E  N  S  S  E  M  L  S  V  G  Y  K  P  V  I  L  T  *
12841 - AGTGCTCTTGTGGCACTAGAGTAGGTGCACTAAGTGGCATTACAGTGTGAGATGTCAACA - 12900
       - S  A  L  V  A  L  E  *  V  H  *  V  A  L  Q  C  E  M  S  T
       - V  L  L  W  H  *  S  R  C  T  K  W  H  Y  S  V  R  C  Q  H
       - C  S  C  G  T  R  V  G  A  L  S  G  I  T  V  *  D  V  N  T
12901 - CAAAGTAATCACCAACATTCAACTTGTATGTCGTAGTACCTCTGTACACAACAGCATCAC - 12960
       - Q  S  N  H  Q  H  S  T  C  M  S  *  Y  L  C  T  Q  Q  H  H
       - K  V  I  T  N  I  Q  L  V  C  R  S  T  S  V  H  N  S  I  T
       - K  *  S  P  T  F  N  L  Y  V  V  V  P  L  Y  T  T  A  S  P
12961 - CATAGTCACCTTTTTCAAAGGTGTACTCTCCAATCTGTACTTTACTATTTTTAGTTACAC - 13020
       - H  S  H  L  F  Q  R  C  T  L  Q  S  V  L  Y  Y  F  *  L  H
       - I  V  T  F  F  K  G  V  L  S  N  L  Y  F  T  I  F  S  Y  T
       - *  S  P  F  S  K  V  Y  S  P  I  C  T  L  L  F  L  V  T  R
13021 - GGTAACCAGTAAAGACATAGTTTCTGTTCAATGGTGGTCTAGGTTTTCCAACCTCCCATG - 13080
       - G  N  Q  *  R  H  S  F  C  S  M  V  V  *  V  F  Q  P  P  M
       - V  T  S  K  D  I  V  S  V  Q  W  W  S  R  F  S  N  L  P  *
       - *  P  V  K  T  *  F  L  F  N  G  G  L  G  F  P  T  S  H  E
13081 - AAAGATGCAATTCTCTGTCAGAGAGTACTTCGCGTACAGTGGCAATACCATATGACAGCT - 13140
       - K  D  A  I  L  C  Q  R  V  L  R  V  Q  W  Q  Y  H  M  T  A
       - K  M  Q  F  S  V  R  E  Y  F  A  Y  S  G  N  T  I  *  Q  L
       - R  C  N  S  L  S  E  S  T  S  R  T  V  A  I  P  Y  D  S  L
13141 - TAAATGTTTCCTCAGTGGCTTTGAGCGTTTCTGCTGCGAAAAGCTTGAGTCTCTCAGTAC - 13200
       - *  M  F  P  Q  W  L  *  A  F  L  L  R  K  A  *  V  S  Q  Y
       - K  C  F  L  S  G  F  E  R  F  C  C  E  K  L  E  S  L  S  T
       - N  V  S  S  V  A  L  S  V  S  A  A  K  S  L  S  L  S  V  Q
13201 - AAGTGTTGGCAAGTATGTAATCGCCAGCATTAGTCCAATCACATGTTGCTATCGCATTGA - 13260
       - K  C  W  Q  V  C  N  R  Q  H  *  S  N  H  M  L  L  S  H  *
       - S  V  G  K  Y  V  I  A  S  I  S  P  I  T  C  C  Y  R  I  E
       - V  L  A  S  M  *  S  P  A  L  V  Q  S  H  V  A  I  A  L  K
13261 - AGTCAGTGACATTGTCACTGCCTACACATGTGTTTTTGTATAAACCAAAAACCTGACCAT - 13320
       - S  Q  *  H  C  H  C  L  H  M  C  F  C  I  N  Q  K  P  D  H
       - V  S  D  I  V  T  A  Y  T  C  V  F  V  *  T  K  N  L  T  I
       - S  V  T  L  S  L  P  T  H  V  F  L  Y  K  P  K  T  *  P  L
13321 - TAGCACATAATGGAAAACTAATGGGAGGCTTATGTGACTTGCAATAATAGCTCATACCTC - 13380
       - *  H  I  M  E  N  *  W  E  A  Y  V  T  C  N  N  S  S  Y  L
       - S  T  *  W  K  T  N  G  R  L  M  *  L  A  I  I  A  H  T  S
       - A  H  N  G  K  L  M  G  G  L  C  D  L  Q  *  *  L  I  P  P
13381 - CTAGATACAGTTGTGTCACATCAGTGACATCACAACCTGGGGCATTGCAAACATAGGGAT - 13440
       - L  D  T  V  V  S  H  Q  *  H  H  N  L  G  H  C  K  H  R  D
       - *  I  Q  L  C  H  I  S  D  I  T  T  W  G  I  A  N  I  G  I
       - R  Y  S  C  V  T  S  V  T  S  Q  P  G  A  L  Q  T  *  G  L
```

FIG. 12 Con't

```
13441 - TAACAGACAACACTAATTTGTGTGATGTTGAAATGACATGGTCATAGCAGCACTTGCAAC - 13500
       -  * Q  T  T  L  I  C  V  M  L  K  *  H  G  H  S  S  T  C  N
       -  N  R  Q  H  *  F  V  *  C  *  N  D  M  V  I  A  A  L  A  T
       -  T  D  N  T  N  L  C  D  V  E  M  T  W  S  *  Q  H  L  Q  H
13501 - ATAGGAATGGTCTCCTAATACAGGCACCGCAACGAAGTGAAGTCTGTGAATTGCACAATA - 13560
       -  I  G  M  V  S  *  Y  R  H  R  N  E  V  K  S  V  N  C  T  I
       -  *  E  W  S  P  N  T  G  T  A  T  K  *  S  L  *  I  A  Q  Y
       -  R  N  G  L  L  I  Q  A  P  Q  R  S  E  V  C  E  L  H  N  T
13561 - CACAAGCACCTACAGCCTGCAAGACTGTATGTGGTGTGTACATAGCCTCATAAAACTCAG - 13620
       -  H  K  H  L  Q  P  A  R  L  Y  V  V  C  T  *  P  H  K  T  Q
       -  T  S  T  Y  S  L  Q  D  C  M  W  C  V  H  S  L  I  K  L  R
       -  Q  A  P  T  A  C  K  T  V  C  G  V  Y  I  A  S  *  N  S  G
13621 - GTTCCCAGTACCGTGAGGTGTTATCATTAGTTAGCATTACGGAATACATGTCCAACATGT - 13680
       -  V  P  S  T  V  R  C  Y  H  *  L  A  L  R  N  T  C  P  T  C
       -  F  P  V  P  *  G  V  I  I  S  *  H  Y  G  I  H  V  Q  H  V
       -  S  Q  Y  R  E  V  L  S  L  V  S  I  T  E  Y  M  S  N  M  W
13681 - GGCCAGTAAGCTCATCATGTAACTTTCTAATGTATTGTAAATACAAGTGAAAGACATCAG - 13740
       -  G  Q  *  A  H  H  V  T  F  *  C  I  V  N  T  S  E  R  H  Q
       -  A  S  K  L  I  M  *  L  S  N  V  L  *  I  Q  V  K  D  I  S
       -  P  V  S  S  S  C  N  F  L  M  Y  C  K  Y  K  *  K  T  S  A
13741 - CATACTCCTGATTAGGATGTTTTGTAAGTGGGTAAGCATCAATAGCCAGTGACACGAACC - 13800
       -  H  T  P  D  *  D  V  L  *  V  G  K  H  Q  *  P  V  T  R  T
       -  I  L  L  I  R  M  F  C  K  W  V  S  I  N  S  Q  *  H  E  P
       -  Y  S  *  L  G  C  F  V  S  G  *  A  S  I  A  S  D  T  N  L
13801 - TTTCAATCATAAGTGTACCATCTGTTTTGACAATATCATCGACAAAACAGCCTGCGCCTA - 13860
       -  F  Q  S  *  V  Y  H  L  F  *  Q  Y  H  R  Q  N  S  L  R  L
       -  F  N  H  K  C  T  I  C  F  D  N  I  I  D  K  T  A  C  A  *
       -  S  I  I  S  V  P  S  V  L  T  I  S  S  T  K  Q  P  A  P  N
13861 - ATATTCTTGATGGATCTGGGTAAGGCAGGTACACGTAATCATCTCCTTGTTTAACTAGCA - 13920
       -  I  F  L  M  D  L  G  K  A  G  T  R  N  H  L  L  V  *  L  A
       -  Y  S  *  W  I  W  V  R  Q  V  H  V  I  I  S  L  F  N  *  H
       -  I  L  D  G  S  G  *  G  R  Y  T  *  S  S  P  C  L  T  S  I
13921 - TTGTATGCTGTGAGCAAAATTCGTGAGGTCCTTTAGTAAGGTCAGTCTCAGTCCAACATT - 13980
       -  L  Y  A  V  S  K  I  R  E  V  L  *  *  G  Q  S  Q  S  N  I
       -  C  M  L  *  A  K  F  V  R  S  F  S  K  V  S  L  S  P  T  F
       -  V  C  C  E  Q  N  S  *  G  P  L  V  R  S  V  S  V  Q  H  F
13981 - TTGCCTCAGACATGAACACATTATTTTGATAATAAAGAACTGCCTTAAAGTTCTTAATGC - 14040
       -  L  P  Q  T  *  T  H  Y  F  D  N  K  E  L  P  *  S  S  *  C
       -  C  L  R  H  E  H  I  I  L  I  I  K  N  C  L  K  V  L  N  A
       -  A  S  D  M  N  T  L  F  *  *  *  R  T  A  L  K  F  L  M  L
14041 - TAGCTACTAAACCTTGAGCCGCATAGTTACTGTTATAGCACACAACGGCATCATCAGAAA - 14100
       -  *  L  L  N  L  E  P  H  S  Y  C  Y  S  T  Q  R  H  H  Q  K
       -  S  Y  *  T  L  S  R  I  V  T  V  I  A  H  N  G  I  I  R  K
       -  A  T  K  P  *  A  A  *  L  L  L  *  H  T  T  A  S  S  E  R
14101 - GAATCATCATGGAGAAATGTTTACGCAGGTAAGCGTAAAACTCATCCACGAATTCATGAT - 14160
       -  E  S  S  W  R  N  V  Y  A  G  K  R  K  T  H  P  R  I  H  D
       -  N  H  H  G  E  M  F  T  Q  V  S  V  K  L  I  H  E  F  M  I
       -  I  I  M  E  K  C  L  R  R  *  A  *  N  S  S  T  N  S  *  S
14161 - CAACATCCCTATTTCTATAGAGACACTCATAGAGCCTGTGTTGTAGATTGCGGACATACT - 14220
       -  Q  H  P  Y  F  Y  R  D  T  H  R  A  C  V  V  D  C  G  H  T
       -  N  I  P  I  S  I  E  T  L  I  E  P  V  L  *  I  A  D  I  L
       -  T  S  L  F  L  *  R  H  S  *  S  L  C  C  R  L  R  T  Y  L
14221 - TGTCAGCTATCTTATTACCATCAGTTGAAAGAAGTGCATTTACATTGGCTGTAACAGCTT - 14280
       -  C  Q  L  S  Y  Y  H  Q  L  K  E  V  H  L  H  W  L  *  Q  L
       -  V  S  Y  L  I  T  I  S  *  K  K  C  I  Y  I  G  C  N  S  L
       -  S  A  I  L  L  P  S  V  E  R  S  A  F  T  L  A  V  T  A  *
```

FIG. 12 Con't

```
14281 - GACAAATGTTAAAGACACTATTAGCATAAGCAGTTGTAGCATCACCGGATGATGTTCCAC - 14340
       - D  K  C  *  R  H  Y  *  H  K  Q  L  *  H  H  R  M  M  F  H
       - T  N  V  K  D  T  I  S  I  S  S  C  S  I  T  G  *  C  S  T
       - Q  M  L  K  T  L  L  A  *  A  V  V  A  S  P  D  D  V  P  P
14341 - CTGGTTTAACATATAGTGAGCCGCCACACATGACCATCTCACTTAATACTTGCGCACACT - 14400
       - L  V  *  H  I  V  S  R  H  T  *  P  S  H  L  I  L  A  H  T
       - W  F  N  I  *  *  A  A  T  H  D  H  L  T  *  Y  L  R  T  L
       - G  L  T  Y  S  E  P  P  H  M  T  I  S  L  N  T  C  A  H  S
14401 - CGTTAGCTAACCTGTAGAAACGGTGTGATAAGTTACAGCAAGTGTTATGTTTGCGAGCAA - 14460
       - R  *  L  T  C  R  N  G  V  I  S  Y  S  K  C  Y  V  C  E  Q
       - V  S  *  P  V  E  T  V  *  *  V  T  A  S  V  M  F  A  S  K
       - L  A  N  L  *  K  R  C  D  K  L  Q  Q  V  L  C  L  R  A  R
14461 - GAACAAGAGAGGCCATTATCCTAAGCATGTTAGGCATGGCTCTGTCACATTTTGGATAAT - 14520
       - E  Q  R  P  L  S  *  A  C  *  A  W  L  C  H  I  L  D  N
       - N  K  R  G  H  Y  P  K  H  V  R  H  G  S  V  T  F  W  I  I
       - T  R  E  A  I  I  L  S  M  L  G  M  A  L  S  H  F  G  *  S
14521 - CCCAACCCATAAGGTGTGGAGTTTCTACATCACTGTAAACAGTTTTTAACATATTATGCC - 14580
       - P  N  P  *  G  V  E  F  L  H  H  C  K  Q  F  L  T  Y  Y  A
       - P  T  H  K  V  W  S  F  Y  I  T  V  N  S  F  *  H  I  M  P
       - Q  P  I  R  C  G  V  S  T  S  L  *  T  V  F  N  I  L  C  Q
14581 - AGCCACCGTAAAACTTGCTTGTTCCAATTACCACAGTAGCTCCTCTAGTGGCGGCTATTG - 14640
       - S  H  R  K  T  C  L  F  Q  L  P  Q  *  L  L  *  W  R  L  L
       - A  T  V  K  L  A  C  S  N  Y  H  S  S  S  S  S  G  G  Y  *
       - P  P  *  N  L  L  V  P  I  T  T  V  A  P  L  V  A  A  I  D
14641 - ACTTCAATAATTTCTGATGAAACTGTCTATTGTCATAGTACTACAGATAGAGACACCAG - 14700
       - T  S  I  I  S  D  E  T  V  Y  L  S  *  Y  Y  R  *  R  H  Q
       - L  Q  *  F  L  M  K  L  S  I  C  H  S  T  T  D  R  D  T  S
       - F  N  N  F  *  *  N  C  L  F  V  I  V  L  Q  I  E  T  P  A
14701 - CTACGGTGCGAGCTCTATTCTTTGCACTAATGGCATACTTAAGATTCATTTGAGTTATAG - 14760
       - L  R  C  E  L  Y  S  L  H  *  W  H  T  *  D  S  F  E  L  *
       - Y  G  A  S  S  I  L  C  T  N  G  I  L  K  I  H  L  S  Y  S
       - T  V  R  A  L  F  F  A  L  M  A  Y  L  R  F  I  *  V  I  V
14761 - TAGGGATGACATTACGCTTAGTATACGCGAAAAGTGCATCTTGATCCTCATAACTCATTG - 14820
       - *  G  *  H  Y  A  *  Y  T  R  K  V  H  L  D  P  H  N  S  L
       - R  D  D  I  T  L  S  I  R  E  K  C  I  L  I  L  I  T  H  *
       - G  M  T  L  R  L  V  Y  A  K  S  A  S  *  S  S  *  L  I  E
14821 - AGTCATAATAAAGTCTAGCCTTACCCCATTTATTAAATGGGAAACCAGCTGATTTATCCA - 14880
       - S  H  N  K  V  *  P  Y  P  I  Y  *  M  G  N  Q  L  I  Y  P
       - V  I  I  K  S  S  L  T  P  F  I  K  W  E  T  S  *  F  I  Q
       - S  *  *  S  L  A  L  P  H  L  L  N  G  K  P  A  D  L  S  R
14881 - GATTGTTAACGATTACTTGGTTGGCATTAATACAGCCACCATCGTAACAATCAAAGTATT - 14940
       - D  C  *  R  L  L  G  W  H  *  Y  S  H  H  R  N  N  Q  S  I
       - I  V  N  D  Y  L  V  G  I  N  T  A  T  I  V  T  I  K  V  F
       - L  L  T  I  T  W  L  A  L  I  Q  P  P  S  *  Q  S  K  Y  L
14941 - TATCAACAACTTCAACTACGAATAGGAGTTGTCTGATATCACACATTGTTGGCAGATTAT - 15000
       - Y  Q  Q  L  Q  L  R  I  G  V  V  *  Y  H  T  L  L  A  D  Y
       - I  N  N  F  N  Y  E  *  E  L  S  D  I  T  H  C  W  Q  I  I
       - S  T  T  S  T  T  N  R  S  C  L  I  S  H  I  V  G  R  L  *
15001 - AACGATAATAGTCATAATCACTGATAGCAGCGTTGCCATCCTGAGCAAAGAAGAAGTGTT - 15060
       - N  D  N  S  H  N  H  *  *  Q  R  C  H  P  E  Q  R  R  S  V
       - T  I  I  V  I  I  T  D  S  S  V  A  I  L  S  K  E  E  V  F
       - R  *  *  S  *  S  L  I  A  A  L  P  S  *  A  K  K  K  C  F
15061 - TTAGTTCAACAGAACTTCCTTCCTTAAAGAAACCTTTAGACACAGCAAAGTCATAAAAGT - 15120
       - L  V  Q  Q  N  F  L  P  *  R  N  L  *  T  Q  Q  S  H  K  S
       - *  F  N  R  T  S  F  L  K  E  T  F  R  H  S  K  V  I  K  V
       - S  S  T  E  L  P  S  L  K  K  P  L  D  T  A  K  S  *  K  S
```

FIG. 12 Con't

```
15121 - CTTTATTAAAATTACCGGGTTTGACAGTTTGAAAAGCAACATTGTTTGTTAGTGCAGCTA - 15180
      - L  Y  *  N  Y  R  V  *  Q  F  E  K  Q  H  C  L  L  V  Q  L
      - F  I  K  I  T  G  F  D  S  L  K  S  N  I  V  C  *  C  S  Y
      - L  L  K  L  P  G  L  T  V  *  K  A  T  L  F  V  S  A  A  T
15181 - CTGAAAAGCATGTAGTGCGTTTATCTAGCAATAAATTGCCAGAAGCTGCATGCATAGCTG - 15240
      - L  K  S  M  *  C  V  Y  L  A  I  N  C  Q  K  L  H  A  *  L
      - *  K  A  C  S  A  F  I  *  Q  *  I  A  R  S  C  M  H  S  W
      - E  K  H  V  V  R  L  S  S  N  K  L  P  E  A  A  C  I  A  G
15241 - GATCAGCAGCATACACTAAAAGTTCCTTGAAACTGAGACGCGAGCTATGTAAGTTTACAT - 15300
      - D  Q  Q  H  T  L  K  V  P  *  N  *  D  A  S  Y  V  S  L  H
      - I  S  S  I  H  *  K  F  L  E  T  E  T  R  A  M  *  V  Y  I
      - S  A  A  Y  T  K  S  S  L  K  L  R  R  E  L  C  K  F  T  S
15301 - CCTGATTATGTACGACTCCTAACTCACGAAAATGGTATCCAGTTGAAACAACAAAAGGAA - 15360
      - P  D  Y  V  R  L  L  T  H  E  N  G  I  Q  L  K  Q  Q  K  E
      - L  I  M  Y  D  S  *  L  T  K  M  V  S  S  *  N  N  K  R  N
      - *  L  C  T  T  P  N  S  R  K  W  Y  P  V  E  T  T  K  G  T
15361 - CACCATCTACAAATATTTTTCTTACTAGTGGTCCAAAACTTGTAGGTGGAAACACAGTAG - 15420
      - H  H  L  Q  I  F  F  L  L  V  V  Q  N  L  *  V  E  T  Q  *
      - T  I  Y  K  Y  F  S  Y  *  W  S  K  T  C  R  W  K  H  S  R
      - P  S  T  N  I  F  L  T  S  G  P  K  L  V  G  G  N  T  V  E
15421 - AAAATAACACATTAAAGTTTGCACAATGAAGGATACACCTATCATCCAAACAGTTAATAC - 15480
      - K  I  T  H  *  S  L  H  N  E  G  Y  T  Y  H  P  N  S  *  Y
      - K  *  H  I  K  V  C  T  M  K  D  T  P  I  I  Q  T  V  N  T
      - N  N  T  L  K  F  A  Q  *  R  I  H  L  S  S  K  Q  L  I  Q
15481 - AATTGGGATGGTATGTCTGGTCCCAATATTTAAAATAACGGTCGAAGAGACAAAGTCTCT - 15540
      - N  W  D  G  M  S  G  P  N  I  *  N  N  G  R  R  D  K  V  S
      - I  G  M  V  C  L  V  P  I  F  K  I  T  V  E  E  T  K  S  L
      - L  G  W  Y  V  W  S  Q  Y  L  K  *  R  S  K  R  Q  S  L  S
15541 - CTTCCGTAAAATCATATTTCAGCAAATCCCACTTAATAAGTGGTTTTGCGAGATCAGCAT - 15600
      - L  P  *  N  H  I  S  A  N  P  T  *  *  V  V  L  R  D  Q  H
      - F  R  K  I  I  F  Q  Q  I  P  L  N  K  W  F  C  E  I  S  I
      - S  V  K  S  Y  F  S  K  S  H  L  I  S  G  F  A  R  S  A  S
15601 - CCATATGGGACTCAGCAGCCAATGCCCTAGTCAAAGTGAGGATGGGCATCAGCAATGAGT - 15660
      - P  Y  G  T  Q  Q  P  M  P  *  S  K  *  G  W  A  S  A  M  S
      - H  M  G  L  S  S  Q  C  P  S  Q  S  E  D  G  H  Q  Q  *  V
      - I  W  D  S  A  A  N  A  L  V  K  V  R  M  G  I  S  N  E  *
15661 - AATATGAATCCACAATAGGAACTCCGCAGCCTGGTGCTACTTGTACGAAATCACCGAAAT - 15720
      - N  M  N  P  Q  *  E  L  R  S  L  V  L  L  V  R  N  H  R  N
      - I  *  I  H  N  R  N  S  A  A  W  C  Y  L  Y  E  I  T  E  I
      - Y  E  S  T  I  G  T  P  Q  P  G  A  T  C  T  K  S  P  K  S
15721 - CGTACCAGTTCCCATTAAGATCCTGATTATCTAATGTCAGTACGCCTACAATGCCTGCAT - 15780
      - R  T  S  S  H  *  D  P  D  Y  L  M  S  V  R  L  Q  C  L  H
      - V  P  V  P  I  K  I  L  I  I  *  C  Q  Y  A  Y  N  A  C  I
      - Y  Q  F  P  L  R  S  *  L  S  N  V  S  T  P  T  M  P  A  S
15781 - CACGCATAGCATCGCAGAATTGTACAGTCTTTAATAATGATTGGCGTACACGCTCACCTA - 15840
      - H  A  *  H  R  R  I  V  Q  S  L  I  M  I  G  V  H  A  H  L
      - T  H  S  I  A  E  L  Y  S  L  *  *  *  L  A  Y  T  L  T  *
      - R  I  A  S  Q  N  C  T  V  F  N  N  D  W  R  T  R  S  P  K
15841 - AGTTAGCATATACGCGTAAGATGTCAGGATTCTCTACGAAGTCATACCAATCCTTCTTAT - 15900
      - S  *  H  I  R  V  R  C  Q  D  S  L  R  S  H  T  N  P  S  Y
      - V  S  I  Y  A  *  D  V  R  I  L  Y  E  V  I  P  I  L  L  I
      - L  A  Y  T  R  K  M  S  G  F  S  T  K  S  Y  Q  S  F  L  L
15901 - TGAAATAATCATCATCACAGCAATTGTATGTGACGAGTATTTCTTTTAATGTATCACAAT - 15960
      - *  N  N  H  H  H  S  N  C  M  *  R  V  F  L  L  M  Y  H  N
      - E  I  I  I  I  T  A  I  V  C  D  E  Y  F  F  *  C  I  T  I
      - K  *  S  S  S  Q  Q  L  Y  V  T  S  I  S  F  N  V  S  Q  L
```

FIG. 12 Con't

```
15961 - TACCCTCATCAAAATGACGTAGAGCATAGACTAAATCAGCCATTGTGTATTTAGTTAGAC - 16020
      - Y  P  H  Q  N  D  V  E  H  R  L  N  Q  P  L  C  I  *  L  D
      - T  L  I  K  M  T  *  S  I  D  *  I  S  H  C  V  F  S  *  T
      - P  S  S  K  *  R  R  A  *  T  K  S  A  I  V  Y  L  V  R  R
16021 - GCTGACGTGATATATGTGGTACCATGTCACCATCTACTCTAAACTTGAAAAAGTCATGGA - 16080
      - A  D  V  I  Y  V  V  P  C  H  H  L  L  *  T  *  K  S  H  G
      - L  T  *  Y  M  W  Y  H  V  T  I  Y  S  K  L  E  K  V  M  D
      - *  R  D  I  C  G  T  M  S  P  S  T  L  N  L  K  K  S  W  T
16081 - CAGCAACCGCTGGACAATCTTTAACCAAGTTATAAATAGTCTCTTCATGTTGGTAGTTAG - 16140
      - Q  Q  P  L  D  N  L  *  P  S  Y  K  *  S  L  H  V  G  S  *
      - S  N  R  W  T  I  F  N  Q  V  I  N  S  L  F  M  L  V  V  R
      - A  T  A  G  Q  S  L  T  K  L  *  I  V  S  S  C  W  *  L  D
16141 - ACATAGTATGCCTCTTAACTACAAAGTAAGAGTCTAATAAATTGCCTTCCTCATCCTTCT - 16200
      - T  *  Y  A  S  *  L  Q  S  K  S  L  I  N  C  L  P  H  P  S
      - H  S  M  P  L  N  Y  K  V  R  V  *  *  I  A  F  L  I  L  L
      - I  V  C  L  L  T  T  K  *  E  S  N  K  L  P  S  S  S  F  S
16201 - CCTGGAAGCGACAGCAATTAGTTTTTAGGAACTTTGCAAAACCAGCACTTTTTTCGTTGT - 16260
      - P  G  S  D  S  N  *  F  L  G  T  L  Q  N  Q  H  F  F  R  C
      - L  E  A  T  A  I  S  F  *  E  L  C  K  T  S  T  F  F  V  V
      - W  K  R  Q  Q  L  V  F  R  N  F  A  K  P  A  L  F  S  L  *
16261 - AAATATCAAAAGCCCTGTAGACGACATCAGTACTAGTGCCTGTGCCGCACGGTGTAAGAC - 16320
      - K  Y  Q  K  P  C  R  R  H  Q  Y  *  C  L  C  R  T  V  *  D
      - N  I  K  S  P  V  D  D  I  S  T  S  A  C  A  A  R  C  K  T
      - I  S  K  A  L  *  T  T  S  V  L  V  P  V  P  H  G  V  R  R
16321 - GGGCTGCACTTACACCGCAAACCCGTTTAAAAACGTTGATGCATCCGCAGACTGCATCAA - 16380
      - G  L  H  L  H  R  K  P  V  *  K  R  *  C  I  R  R  L  H  Q
      - G  C  T  Y  T  A  N  P  F  K  N  V  D  A  S  A  D  C  I  K
      - A  A  L  T  P  Q  T  R  L  K  T  L  M  H  P  Q  T  A  S  R
16381 - GGGTTCGCGGAGTTGGTCACAACTACAGCCATAACCTTTCCACATTCCGCAGACGGTACA - 16440
      - G  F  A  E  L  V  T  T  T  A  I  T  F  P  H  S  A  D  G  T
      - G  S  R  S  W  S  Q  L  Q  P  *  P  F  H  I  P  Q  T  V  Q
      - V  R  G  V  G  H  N  Y  S  H  N  L  S  T  F  R  R  R  Y  R
16441 - GACTGTGTTTCTAAGTGTAAAACCCACTGGGTCATTAGCACAAGTGGTAGGTATTTGGAC - 16500
      - D  C  V  S  K  C  K  T  H  W  V  I  S  T  S  G  R  Y  L  D
      - T  V  F  L  S  V  K  P  T  G  S  L  A  Q  V  V  G  I  W  T
      - L  C  F  *  V  *  N  P  L  G  H  *  H  K  W  *  V  F  G  R
16501 - GTACTTACCTTTCAAGTCACAGAATCCTTTAGGATTTGGATGGTCAATGTGGCATCTACA - 16560
      - V  L  T  F  Q  V  T  E  S  F  R  I  W  M  V  N  V  A  S  T
      - Y  L  P  F  K  S  Q  N  P  L  G  F  G  W  S  M  W  H  L  Q
      - T  Y  L  S  S  H  R  I  L  *  D  L  D  G  Q  C  G  I  Y  N
16561 - ATACAGACAACATGAAGCACCACCAAAGGACTCTTGGTCCATGTTAGCTTCTGGTGTTAC - 16620
      - I  Q  T  T  *  S  T  T  K  G  L  L  V  H  V  S  F  W  C  Y
      - Y  R  Q  H  E  A  P  P  K  D  S  W  S  M  L  A  S  G  V  T
      - T  D  N  M  K  H  H  Q  R  T  L  G  P  C  *  L  L  V  L  Q
16621 - AGTAATTGCCTGTCCTGTACCAGTGTGTGTACACAACATCTTCACACAGTTGGTGATTGG - 16680
      - S  N  C  L  S  C  T  S  V  C  T  Q  H  L  H  T  V  G  D  W
      - V  I  A  C  P  V  P  V  C  V  H  N  I  F  T  Q  L  V  I  G
      - *  L  P  V  L  Y  Q  C  V  Y  T  T  S  S  H  S  W  *  L  V
16681 - TTGTCCTCCACTTGCTAGGTAATCCTTATATGCTTTAGCAGGGTCTACTGCAAAAGCACA - 16740
      - L  S  S  T  C  *  V  I  L  I  C  F  S  R  V  Y  C  K  S  T
      - C  P  P  L  A  R  *  S  L  Y  A  L  A  G  S  T  A  K  A  Q
      - V  L  H  L  L  G  N  P  Y  M  L  *  Q  G  L  L  Q  K  H  R
16741 - GAAGGAAAGCACAGTTGAATTGGCAGGTACTTCTGTAGCATTTCCAGCCTGAAGACGTAC - 16800
      - E  G  K  H  S  *  I  G  R  Y  F  C  S  I  S  S  L  K  T  Y
      - K  E  S  T  V  E  L  A  G  T  S  V  A  F  P  A  *  R  R  T
      - R  K  A  Q  L  N  W  Q  V  L  L  *  H  F  Q  P  E  D  V  L
```

FIG. 12 Con't

```
16801 - TGTAGCAGCTAAACTGCCCAGCACCATACCTCTATTTAGGTTGTTTAAGCCTTTGATGAA - 16860
       - C  S  S  *  T  A  Q  H  H  T  S  I  *  V  V  *  A  F  D  E
       -  V  A  A  K  L  P  S  T  I  P  L  F  R  L  F  K  P  L  M  K
       -   *  Q  L  N  C  P  A  P  Y  L  Y  L  G  C  L  S  L  *  *  S
16861 - GTACAAGTATTTCACTTTAGGCCCTTTTGGTGTGTCTGTAACAAACCTACAAGGTGGTTC - 16920
       - V  Q  V  F  H  F  R  P  F  W  C  V  C  N  K  P  T  R  W  F
       -  Y  K  Y  F  T  L  G  P  F  G  V  S  V  T  N  L  Q  G  G  S
       -   T  S  I  S  L  *  A  L  L  V  C  L  *  Q  T  Y  K  V  V  P
16921 - CAGTTCTGTGTAAATTGTACCTGTACCATCACTCTTAGGGAATCTAGCCCATTTGAGATC - 16980
       - Q  F  C  V  N  C  T  C  T  I  T  L  R  E  S  S  P  F  E  I
       -  S  S  V  *  I  V  P  V  P  S  L  L  G  N  L  A  H  L  R  S
       -   V  L  C  K  L  Y  L  Y  H  H  S  *  G  I  *  P  I  *  D  L
16981 - TTGGTGGTCTGATAGTAATGCCAGCACAAACCTACCTCCCTTCGAATTGTTATAGTAGGC - 17040
       - L  V  V  *  *  *  C  Q  H  K  P  T  S  L  R  I  V  I  V  G
       -  W  W  S  D  S  N  A  S  T  N  L  P  P  F  E  L  L  *  *  A
       -   G  G  L  I  V  M  P  A  Q  T  Y  L  P  S  N  C  Y  S  R  Q
17041 - AAGTGCATTGTCATCAGTACAAGCTGTTTGTGTGGTACCAGCCGCACAGGACATCTGTCG - 17100
       - K  C  I  V  I  S  T  S  C  L  C  G  T  S  R  T  G  H  L  S
       -  S  A  L  S  S  V  Q  A  V  C  V  V  P  A  A  Q  D  I  C  R
       -   V  H  C  H  Q  Y  K  L  F  V  W  Y  Q  P  H  R  T  S  V  V
17101 - TAGTGCTACTGGACTCAGTTCATTATTCTGTAGTTTAACAGCTGAGTTGGCTCTTAGAGC - 17160
       - *  C  Y  W  T  Q  F  I  I  L  *  F  N  S  *  V  G  S  *  S
       -  S  A  T  G  L  S  S  L  F  C  S  L  T  A  E  L  A  L  R  A
       -   V  L  L  D  S  V  H  Y  S  V  V  *  Q  L  S  W  L  L  E  L
17161 - TGTAACAATAAGAGGCCAAGCCAAATTTGGTGAATTGTCCATGTTAATTTCACTAAGTTG - 17220
       - C  N  N  K  R  P  S  Q  I  W  *  I  V  H  V  N  F  T  K  L
       -  V  T  I  R  G  Q  A  K  F  G  E  L  S  M  L  I  S  L  S  *
       -   *  Q  *  E  A  K  P  N  L  V  N  C  P  C  *  F  H  *  V  E
17221 - AACAATCTTGCTATCCGCATCAACAACTTGCTGGATTTCCCAGAGTGCAGATGCATATGT - 17280
       - N  N  L  A  I  R  I  N  N  L  L  D  F  P  E  C  R  C  I  C
       -  T  I  L  L  S  A  S  T  T  C  W  I  S  Q  S  A  D  A  Y  V
       -   Q  S  C  Y  P  H  Q  Q  L  A  G  F  P  R  V  Q  M  H  M  *
17281 - AAAGGTGTTACCATCACAAGTGTTCTTGTAGGTACCATAATCAGGGACAACAACCATGAG - 17340
       - K  G  V  T  I  T  S  V  L  V  G  T  I  I  R  D  N  N  H  E
       -  K  V  L  P  S  Q  V  F  L  *  V  P  *  S  G  T  T  T  M  S
       -   R  C  Y  H  H  K  C  S  C  R  Y  H  N  Q  G  Q  Q  P  *  V
17341 - TTTGGCTGCTGTAGTCAATGGTATGATGTTGAGTGGAACACAACCATCACGCGCATTGTT - 17400
       - F  G  C  C  S  Q  W  Y  D  V  E  W  N  T  T  I  T  R  I  V
       -  L  A  A  V  V  N  G  M  M  L  S  G  T  Q  P  S  R  A  L  L
       -   W  L  L  *  S  M  V  *  C  *  V  E  H  N  H  H  A  H  C  *
17401 - GATAATGTTGTTAAGTGCATCATTATCAAGCTTCCTAAGCATAGTGAAGAGCATTGTTTG - 17460
       - D  N  V  V  K  C  I  I  I  K  L  P  K  H  S  E  E  H  C  L
       -  I  M  L  L  S  A  S  L  S  S  F  L  S  I  V  K  S  I  V  C
       -   *  C  C  *  V  H  H  Y  Q  A  S  *  A  *  *  R  A  L  F  A
17461 - CATAGCACTAGTTACTTTTGCCCTCTTGTCCTCAGATCTTGCCTGTTTGTACATTTGGGT - 17520
       - H  S  T  S  Y  F  C  P  L  V  L  R  S  C  L  F  V  H  L  G
       -  I  A  L  V  T  F  A  L  L  S  S  D  L  A  C  L  Y  I  W  V
       -   *  H  *  L  L  L  P  S  C  P  Q  I  L  P  V  C  T  F  G  S
17521 - CATAGCCTGATCTGCCATCTTTTCCAACTTGCGTTGCATGGCAGCATCACGGTCAAACTC - 17580
       - H  S  L  I  C  H  L  F  Q  L  A  L  H  G  S  I  T  V  K  L
       -  I  A  *  S  A  I  F  S  N  L  R  C  M  A  A  S  R  S  N  S
       -   *  P  D  L  P  S  F  P  T  C  V  A  W  Q  H  H  G  Q  T  Q
17581 - AGATTTAGCCACATTCAAAGATTTCTTTAACTTTTTGAGAACGACTTCAGAATCACCATT - 17640
       - R  F  S  H  I  Q  R  F  L  *  L  F  E  N  D  F  R  I  T  I
       -  D  L  A  T  F  K  D  F  F  N  F  L  R  T  T  S  E  S  P  L
       -   I  *  P  H  S  K  I  S  L  T  F  *  E  R  L  Q  N  H  H  *
```

FIG. 12 Con't

```
17641 - AGCTACAGCCTGCTCATAGGCCTCCTGGGCAGTGGCATAAGCGGCATATGATGGTAAAGA - 17700
       - S  Y  S  L  L  I  G  L  L  G  S  G  I  S  G  I  *  W  *  R
       - A  T  A  C  S  *  A  S  W  A  V  A  *  A  A  Y  D  G  K  E
       - L  Q  P  A  H  R  P  P  G  Q  W  H  K  R  H  M  M  V  K  N
17701 - ACTAAATTCTGAAGCAATAGCCTGAAGAGTAGCACGGTTATCGAGCATTTCCTCGCACAA - 17760
       - T  K  F  *  S  N  S  L  K  S  S  T  V  I  E  H  F  L  A  Q
       - L  N  S  E  A  I  A  *  R  V  A  R  L  S  S  I  S  S  H  N
       - *  I  L  K  Q  *  P  E  E  *  H  G  Y  R  A  F  P  R  T  T
17761 - CCTATTAATGTCTACAGCACCCTGCATGGATAGCAAAACAGACAAAAGAGAAACCATCTT - 17820
       - P  I  N  V  Y  S  T  L  H  G  *  Q  N  R  Q  K  R  N  H  L
       - L  L  M  S  T  A  P  C  M  D  S  K  T  D  K  R  E  T  I  F
       - Y  *  C  L  Q  H  P  A  W  I  A  K  Q  T  K  E  K  P  S  S
17821 - CTCGAAAGCTTCAGTTGTGTCTTTTGCAAGAAGAATATCATTGTGGAGTTGTACACATTG - 17880
       - L  E  S  F  S  C  V  F  C  K  K  N  I  I  V  E  L  Y  T  L
       - S  K  A  S  V  V  S  F  A  R  R  I  S  L  W  S  C  T  H  C
       - R  K  L  Q  L  C  L  L  Q  E  E  Y  H  C  G  V  V  H  I  V
17881 - TGCCCACAATTTAGAAGATGACTCTACTCTAAGTTGTTGAAGAACCGAGAGCAGTACCAC - 17940
       - C  P  Q  F  R  R  *  L  Y  S  K  L  L  K  N  R  E  Q  Y  H
       - A  H  N  L  E  D  D  S  T  L  S  C  *  R  T  E  S  S  T  T
       - P  T  I  *  K  M  T  L  L  *  V  V  E  E  P  R  A  V  P  Q
17941 - AGATGTGCACTTTACGTCAGACATTTTAGACTGTACAGTAGCAACCTTGATACATGGTTT - 18000
       - R  C  A  L  Y  V  R  H  F  R  L  Y  S  S  N  L  D  T  W  F
       - D  V  H  F  T  S  D  I  L  D  C  T  V  A  T  L  I  H  G  L
       - M  C  T  L  R  Q  T  F  *  T  V  Q  *  Q  P  *  Y  M  V  Y
18001 - ACCTCCAATACCCAACAACTTAATGTTAAGCTTGAAAGCATCAATACTACTCTTAGGAGG - 18060
       - T  S  N  T  Q  Q  L  N  V  K  L  E  S  I  N  T  T  L  R  R
       - P  P  I  P  N  N  L  M  L  S  L  K  A  S  I  L  L  L  G  G
       - L  Q  Y  P  T  T  *  C  *  A  *  K  H  Q  Y  Y  S  *  E  A
18061 - CAAAAGCCCCTGGGAGTTCATATACCTAAATTCTTGTGTAGAGACCAAGTAGTCATAAAC - 18120
       - Q  K  P  L  G  V  H  I  P  K  F  L  C  R  D  Q  V  V  I  N
       - K  S  P  W  E  F  I  Y  L  N  S  C  V  E  T  K  *  S  *  T
       - K  A  P  G  S  S  Y  T  *  I  L  V  *  R  P  S  S  H  K  H
18121 - ACCAAGAGTAAGCCTGAAGTAACGGTTGAGTAAACAGAAAAGGCCAAAGTAGCAGCAGCA - 18180
       - T  K  S  K  P  E  V  T  V  E  *  T  E  K  A  K  V  A  A  A
       - P  R  V  S  L  K  *  R  L  S  K  Q  K  R  P  K  *  Q  Q  Q
       - Q  E  *  A  *  S  N  G  *  V  N  R  K  G  Q  S  S  S  N
18181 - ACAATAGCCTAAGAAACAATAAACAAGCATGATACACTGTAAGGTGTTGCCAGTAATAAA - 18240
       - T  I  A  *  E  T  I  N  K  H  D  T  L  *  G  V  A  S  N  K
       - Q  *  P  K  K  Q  *  T  S  M  I  H  C  K  V  L  P  V  I  N
       - N  S  L  R  N  N  K  Q  A  *  Y  T  V  R  C  C  Q  *  *  I
18241 - TAACAATGGGTAATACTCAACACACACAAACACTATAGCTCTAGCTAAAAACATGATAGT - 18300
       - *  Q  W  V  I  L  N  T  H  K  H  Y  S  S  *  K  H  D  S
       - N  N  G  *  Y  S  T  H  T  N  T  I  A  L  A  K  N  M  I  V
       - T  M  G  N  T  Q  H  T  Q  T  L  *  L  *  L  K  T  *  *  S
18301 - CGTAACGACACCAGAATAGTTAGAGGTTACAGAAATAACTAAGGCCCACATGGAAATAGC - 18360
       - R  N  D  T  R  I  V  R  G  Y  R  N  N  *  G  P  H  G  N  S
       - V  T  T  P  E  *  L  E  V  T  E  I  T  K  A  H  M  E  I  A
       - *  R  H  Q  N  S  *  R  L  Q  K  *  L  R  P  T  W  K  *  L
18361 - TTGATCTAAAGCATTACCATAGTAGACTTTGTAAACAAGTGTAATGACATTCATCAGTGT - 18420
       - L  I  *  S  I  T  I  V  D  F  V  N  K  C  N  D  I  H  Q  C
       - *  S  K  A  L  P  *  *  T  L  *  T  S  V  M  T  F  I  S  V
       - D  L  K  H  Y  H  S  R  L  C  K  Q  V  *  *  H  S  S  V  S
18421 - CCAAACACGTCTAGCAGCATCATCATAAACAGTGCGAGCTGTCATGAGAATAAGCAAAAC - 18480
       - P  N  T  S  S  S  I  I  I  N  S  A  S  C  H  E  N  K  Q  N
       - Q  T  R  L  A  A  S  S  *  T  V  R  A  V  M  R  I  S  K  T
       - K  H  V  *  Q  H  H  H  K  Q  C  E  L  S  *  E  *  A  K  L
```

FIG. 12 Con't

```
18481 - TAAAGCTGAAGCATACATAACACAATCCTTAAGCCTATAACCAGACAAGCTAGTGTCAGC - 18540
       - *  S  *  S  I  H  N  T  I  L  K  P  I  T  R  Q  A  S  V  S
       - K  A  E  A  Y  I  T  Q  S  L  S  L  *  P  D  K  L  V  S  A
       - K  L  K  H  T  *  H  N  P  *  A  Y  N  Q  T  S  *  C  Q  P
18541 - CAATTCAAGCCATGTCATGATACGCATCACCCAGCTAGCAGGCATGTAGACCATATTAAA - 18600
       - Q  F  K  P  C  H  D  T  H  H  P  A  S  R  H  V  D  H  I  K
       - N  S  S  H  V  M  I  R  I  T  Q  L  A  G  M  *  T  I  L  K
       - I  Q  A  M  S  *  Y  A  S  P  S  *  Q  A  C  R  P  Y  *  S
18601 - GTAAGCAACTGTTGCAAGAGAAGGTAACAGAAACAAGCACAAGAATGCGTGCTTATGCTT - 18660
       - V  S  N  C  C  K  R  R  *  Q  K  Q  A  Q  E  C  V  L  M  L
       - *  A  T  V  A  R  E  G  N  R  N  K  H  K  N  A  C  L  C  L
       - K  Q  L  L  Q  E  K  V  T  E  T  S  T  R  M  R  A  Y  A  *
18661 - AACAAGCAGCATAGCACATGCAGCAATTGCCATAATACCAAGAGTAAATGGCAAGAAAGC - 18720
       - N  K  Q  H  S  T  C  S  N  C  H  N  T  K  S  K  W  Q  E  S
       - T  S  S  I  A  H  A  A  I  A  I  I  P  R  V  N  G  K  K  A
       - Q  A  A  *  H  M  Q  Q  L  P  *  Y  Q  E  *  M  A  R  K  H
18721 - ATTCTCGTAAACAAAGAAAAACAGTGACCACTGTGTACTTTGAACAAGAATCAATAGTGA - 18780
       - I  L  V  N  K  E  K  Q  *  P  L  C  T  L  N  K  N  Q  *  *
       - F  S  *  T  K  K  N  S  D  H  C  V  L  *  T  R  I  N  S  D
       - S  R  K  Q  R  K  T  V  T  T  V  Y  F  E  Q  E  S  I  V  M
18781 - TGTCAAGAAAGTTAAAAGCATCCAATGATGAGTGCCCTTAACAATTTTCTTGAACTTACC - 18840
       - C  Q  E  S  *  K  H  P  M  M  S  A  L  N  N  F  L  E  L  T
       - V  K  K  V  K  S  I  Q  *  *  V  P  L  T  I  F  L  N  L  P
       - S  R  K  L  K  A  S  N  D  E  C  P  *  Q  F  S  *  T  Y  L
18841 - TTGGAAGGTAACACCAGAGCATTGTCTAACAACATCAAATGGTGTAAACTCATCTTCTAA - 18900
       - L  E  G  N  T  R  A  L  S  N  N  I  K  W  C  K  L  I  F  *
       - W  K  V  T  P  E  H  C  L  T  T  S  N  G  V  N  S  S  S  K
       - G  R  *  H  Q  S  I  V  *  Q  H  Q  M  V  *  T  H  L  L  K
18901 - AATAGTGCTACCAAGGATAGTACGACCATTCATACCATTCTGCAGCAGCTCTTTCAAAGC - 18960
       - N  S  A  T  K  D  S  T  T  I  H  T  I  L  Q  Q  L  F  Q  S
       - I  V  L  P  R  I  V  R  P  F  I  P  F  C  S  S  S  F  K  A
       - *  C  Y  Q  G  *  Y  D  H  S  Y  H  S  A  A  A  L  S  K  Q
18961 - AGCACACATATCTAAGACGGCAATTCCTGTTTGAGCAGAAAGAGGTCCCAATATGTCAAC - 19020
       - S  T  H  I  *  D  G  N  S  C  L  S  R  K  R  S  Q  Y  V  N
       - A  H  I  S  K  T  A  I  P  V  *  A  E  R  G  P  N  M  S  T
       - H  T  Y  L  R  R  Q  F  L  F  E  Q  K  E  V  P  I  C  Q  H
19021 - ATGATCTTGTGTCAAAGGTTCATAGTTGTACTTCATTGCCACAAGGTTAAAGTCATTCAA - 19080
       - M  I  L  C  Q  R  F  I  V  V  L  H  C  H  K  V  K  V  I  Q
       - *  S  C  V  K  G  S  *  L  Y  F  I  A  T  R  L  K  S  F  K
       - D  L  V  S  K  V  H  S  C  T  S  L  P  Q  G  *  S  H  S  K
19081 - AGTAGTGGTGAATCTATTAAGAAACCACCTATCACCATTGATAACAGCAGCATACAGCCA - 19140
       - S  S  G  E  S  I  K  K  P  P  I  T  I  D  N  S  S  I  Q  P
       - V  V  V  N  L  L  R  N  H  L  S  P  L  I  T  A  A  Y  S  H
       - *  W  *  I  Y  *  E  T  T  Y  H  H  *  *  Q  Q  H  T  A  M
19141 - TGCCAAAACATTTAATGTTATGGTTGTGTCTGTACCTGCAGCCTGTGCAGTTTGTCTGTC - 19200
       - C  Q  N  I  *  C  Y  G  C  V  C  T  C  S  L  C  S  L  S  V
       - A  K  T  F  N  V  M  V  V  S  V  P  A  A  C  A  V  C  L  S
       - P  K  H  L  M  L  W  L  C  L  Y  L  Q  P  V  Q  F  V  C  Q
19201 - AACAAATGGACCATAGAATTTACCTTCTAAGTCAGTACCAGCGTGTACTCCTGTTGGAAG - 19260
       - N  K  W  T  I  E  F  T  F  *  V  S  T  S  V  Y  S  C  W  K
       - T  N  G  P  *  N  L  P  S  K  S  V  P  A  C  T  P  V  G  S
       - Q  M  D  H  R  I  Y  L  L  S  Q  Y  Q  R  V  L  L  L  E  A
19261 - CTCCATATGATGCATATAGCAGAAAGACACGCAATCATAATCAATGTTAAAACCAACACT - 19320
       - L  H  M  M  H  I  A  E  R  H  A  I  I  I  N  V  K  T  N  T
       - S  I  *  C  I  *  Q  K  D  T  Q  S  *  S  M  L  K  P  T  L
       - P  Y  D  A  Y  S  R  K  T  R  N  H  N  Q  C  *  N  Q  H  Y
```

FIG. 12 Con't

```
19321 - ACCACATGATCCATTAAGGAAAGAACCTTTAATGGTATGATTAGGTCTCATGGCACACTG - 19380
       - T  T  *  S  I  K  E  R  T  F  N  G  M  I  R  S  H  G  T  L
       - P  H  D  P  L  R  K  E  P  L  M  V  *  L  G  L  M  A  H  *
       - H  M  I  H  *  G  K  N  L  *  W  Y  D  *  V  S  W  H  T  D
19381 - ATAAACACCAGATGGTGAACCATTGTAGCATGCTAGAACTGAAAATGTTTGACCAGGTTG - 19440
       - I  N  T  R  W  *  T  I  V  A  C  *  N  *  K  C  L  T  R  L
       - *  T  P  D  G  E  P  L  *  H  A  R  T  E  N  V  *  P  G  W
       - K  H  Q  M  V  N  H  C  S  M  L  E  L  K  M  F  D  Q  V  G
19441 - GATACGGACAAATTTATACTTGGGTGTCTTAGGGTTAGAAGTATCAACTTTAAGCCTAAG - 19500
       - D  T  D  K  F  I  L  G  C  L  R  V  R  S  I  N  F  K  P  K
       - I  R  T  N  L  Y  L  G  V  L  G  L  E  V  S  T  L  S  L  S
       - Y  G  Q  I  Y  T  W  V  S  *  G  *  K  Y  Q  L  *  A  *  A
19501 - CAGACAATTTTGCATAGAATGGCCAATAACACGAAGTTGAACATTGCCAGCCTGAACAAG - 19560
       - Q  T  I  L  H  R  M  A  N  N  T  K  L  N  I  A  S  L  N  K
       - R  Q  F  C  I  E  W  P  I  T  R  S  *  T  L  P  A  *  T  R
       - D  N  F  A  *  N  G  Q  *  H  E  V  E  H  C  Q  P  E  Q  E
19561 - AAAGCTATGGTTGGATTTGCGAATGAGCAGATCTTCATAGTTAGGATTAAGCATGTCTTC - 19620
       - K  A  M  V  G  F  A  N  E  Q  I  F  I  V  R  I  K  H  V  F
       - K  L  W  L  D  L  R  M  S  R  S  S  *  L  G  L  S  M  S  S
       - S  Y  G  W  I  C  E  *  A  D  L  H  S  *  D  *  A  C  L  L
19621 - TGCTGTGCAAATGACATGTCTTGGACAGTATACTGTGTCATCCAACCACAATCCATTAAG - 19680
       - C  C  A  N  D  M  S  W  T  V  Y  C  V  I  Q  P  Q  S  I  K
       - A  V  Q  M  T  C  L  G  Q  Y  T  V  S  S  N  H  N  P  L  R
       - L  C  K  *  H  V  L  D  S  I  L  C  H  P  T  T  I  H  *  E
19681 - AGTTGTAGTTCCACAGGTTACTTGTACCATGCACCCTTCAACTTTGCCTGACGGGAATGC - 19740
       - S  C  S  S  T  G  Y  L  Y  H  A  P  F  N  F  A  *  R  E  C
       - V  V  V  P  Q  V  T  C  T  M  H  P  S  T  L  P  D  G  N  A
       - L  *  F  H  R  L  L  V  P  C  T  L  Q  L  C  L  T  G  M  P
19741 - CATTTTCCTAAAACCACTCTGCAGAACAGCAGAAGTGATTGATGTCTGTGGTGGTTGGTA - 19800
       - H  F  P  K  T  T  L  Q  N  S  R  S  D  *  C  L  W  W  L  V
       - I  F  L  K  P  L  C  R  T  A  E  V  I  D  V  C  G  G  W  *
       - F  S  *  N  H  S  A  E  Q  Q  K  *  L  M  S  V  V  V  G  R
19801 - GAGAACATCAGCACCTGAGTTGCTAAAGTCATTTAGAGCCTTTGCTAAGTGGCAGCAAGC - 19860
       - E  N  I  S  T  *  V  A  K  V  I  *  S  L  C  *  V  A  A  S
       - R  T  S  A  P  E  L  L  K  S  F  R  A  F  A  K  W  Q  Q  A
       - E  H  Q  H  L  S  C  *  S  H  L  E  P  L  L  S  G  S  K  L
19861 - TGCTTCACGATAGCTGGTAGTATCTAAGGCTCCACTGAAATACTTGTACTTGTTATATAG - 19920
       - C  F  T  I  A  G  S  I  *  G  S  T  E  I  L  V  L  V  I  *
       - A  S  R  *  L  V  V  S  K  A  P  L  K  Y  L  Y  L  L  Y  R
       - L  H  D  S  W  *  Y  L  R  L  H  *  N  T  C  T  C  Y  I  E
19921 - AGCAAGATACCTGTTATACTGTGTAAGTGGCAACAGTGTCTCGCTACGCAATTTTAGGTA - 19980
       - S  K  I  P  V  I  L  C  K  W  Q  Q  C  L  A  T  Q  F  *  V
       - A  R  Y  L  L  Y  C  V  S  G  N  S  V  S  L  R  N  F  R  Y
       - Q  D  T  C  Y  T  V  *  V  A  T  V  S  R  Y  A  I  L  G  T
19981 - CATTTCCTTGTTGAGCAAAAAGGTACACAAAGCAGCCTCCTCGAAGGTACTAAATGTAAC - 20040
       - H  F  L  V  E  Q  K  G  T  Q  S  S  L  L  E  G  T  K  C  N
       - I  S  L  L  S  K  K  V  H  K  A  A  S  S  K  V  L  N  V  T
       - F  P  C  *  A  K  R  Y  T  K  Q  P  P  R  R  Y  *  M  *  L
20041 - TCCATTAAACATGACTCTTTTCCTAAGATAGTTGTTAAAGAACCAATGGCAGTGCTTCAG - 20100
       - S  I  K  H  D  S  F  P  K  I  V  V  K  E  P  M  A  V  L  Q
       - P  L  N  M  T  L  F  L  R  *  L  L  K  N  Q  W  Q  C  F  R
       - H  *  T  *  L  F  S  *  D  S  C  *  R  T  N  G  S  A  S  E
20101 - AGAAATACAGAATACATAGATTGCTGTTATCCAAAAAGGCACAATAGGAGAAAACATGGC - 20160
       - R  N  T  E  Y  I  D  C  C  Y  P  K  R  H  N  R  R  K  H  G
       - E  I  Q  N  T  *  I  A  V  I  Q  K  G  T  I  G  E  N  M  A
       - K  Y  R  I  H  R  L  L  L  S  K  K  A  Q  *  E  K  T  W  Q
```

FIG. 12 Con't

```
20161 - AAACCATTGAAGGTGAGCCAAGAATGAAACATCATTGGTGAAATAGAATGTCAAGTACAA - 20220
       - K  P  L  K  V  S  Q  E  *  N  I  I  G  E  I  E  C  Q  V  Q
       - N  H  *  R  *  A  K  N  E  T  S  L  V  K  *  N  V  K  Y  K
       - T  I  E  G  E  P  R  M  K  H  H  W  *  N  R  M  S  S  T  S
20221 - GTAAAAGACTGAGTAGACTCCCGGCAGAAAGCTGTAAGCTGGTACCAGACAGAGTATAGT - 20280
       - V  K  D  *  V  D  S  R  Q  K  A  V  S  W  Y  Q  T  E  Y  S
       - *  K  T  E  *  T  P  G  R  K  L  *  A  G  T  R  Q  S  I  V
       - K  R  L  S  R  L  P  A  E  S  C  K  L  V  P  D  R  V  *  *
20281 - GAAAGACATCAAAAACAAAAGTGCATTAGCAGCAACAACATGGTTGTACTCACCAAAAAC - 20340
       - E  R  H  Q  K  Q  K  C  I  S  S  N  N  M  V  V  L  T  K  N
       - K  D  I  K  N  K  S  A  L  A  A  T  T  W  L  Y  S  P  K  T
       - K  T  S  K  T  K  V  H  *  Q  Q  Q  H  G  C  T  H  Q  K  H
20341 - ACGTCTGAATTTCATAAAGTAGTAGGCAGCACAAGTCACCAATATGGCAATAATACCACC - 20400
       - T  S  E  F  H  K  V  V  G  S  T  S  H  Q  Y  G  N  N  T  T
       - R  L  N  F  I  K  *  *  A  A  Q  V  T  N  M  A  I  I  P  P
       - V  *  I  S  *  S  S  R  Q  H  K  S  P  I  W  Q  *  Y  H  Q
20401 - AGCCACTACTGAAGCAGACACATCTAAAGCACCCACAGGTTGCACAAGAGGAGTAAAGAT - 20460
       - S  H  Y  *  S  R  H  I  *  S  T  H  R  L  H  K  R  S  K  D
       - A  T  T  E  A  D  T  S  K  A  P  T  G  C  T  R  G  V  K  M
       - P  L  L  K  Q  T  H  L  K  H  P  Q  V  A  Q  E  E  *  R  C
20461 - GTTAGCTATGAGATTCATCGCATCAACACCACAGAAAACTCCTGATAGAGCTCTGTAATG - 20520
       - V  S  Y  E  I  H  R  I  N  T  T  E  N  S  *  *  S  S  V  M
       - L  A  M  R  F  I  A  S  T  P  Q  K  T  P  D  R  A  L  *  C
       - *  L  *  D  S  S  H  Q  H  H  R  K  L  L  I  E  L  C  N  A
20521 - CTCATTATTAAGAACCCATCTACCACTGGTAGATAGGCAAATACCTACTTCTGACCTTTC - 20580
       - L  I  I  K  N  P  S  T  T  G  R  *  A  N  T  Y  F  *  P  F
       - S  L  L  R  T  H  L  P  L  V  D  R  Q  I  P  T  S  D  L  S
       - H  Y  *  E  P  I  Y  H  W  *  I  G  K  Y  L  L  L  T  F  R
20581 - GCATGTACCATGTCTACAGTACTCAGCATCAAAAGTTGTTACTACTCTAACAGAACCCTC - 20640
       - A  C  T  M  S  T  V  L  S  I  K  S  C  Y  Y  S  N  R  T  L
       - H  V  P  C  L  Q  Y  S  A  S  K  V  V  T  T  L  T  E  P  S
       - M  Y  H  V  Y  S  T  Q  H  Q  K  L  L  L  L  *  Q  N  P  P
20641 - CAGGTAAGTGTTAGGAAACTGTATGATGGAACCATCCATAAGCACATAACGAGTGTCTGG - 20700
       - Q  V  S  V  R  K  L  Y  D  G  T  I  H  K  H  I  T  S  V  W
       - R  *  V  L  G  N  C  M  M  E  P  S  I  S  T  *  R  V  S  G
       - G  K  C  *  E  T  V  *  W  N  H  P  *  A  H  N  E  C  L  D
20701 - ACGAAGCTCACTATAAGAAATAGAACCCTCTAGCAAATTAGTGTCATAACAATATGGCAC - 20760
       - T  K  L  T  I  R  N  R  T  L  *  Q  I  S  V  I  T  I  W  H
       - R  S  S  L  *  E  I  E  P  S  S  K  L  V  S  *  Q  Y  G  T
       - E  A  H  Y  K  K  *  N  P  L  A  N  *  C  H  N  N  M  A  Q
20761 - AGGTTTGCCCATAGCATCCTTAAAAATTGTACACTCAGCAGCAAGAACGCAAGCAGAGGT - 20820
       - R  F  A  H  S  I  L  K  N  C  T  L  S  S  K  N  A  S  R  G
       - G  L  P  I  A  S  L  K  I  V  H  S  A  A  R  T  Q  A  E  V
       - V  C  P  *  H  P  *  K  L  Y  T  Q  Q  Q  E  R  K  Q  R  *
20821 - AGCAAAATCACTATACTCAATGAGTTTGGAAGGTGTGTAGCAAATGTTGCCAACAGCACT - 20880
       - S  K  I  T  I  L  N  E  F  G  R  C  V  A  N  V  A  N  S  T
       - A  K  S  L  Y  S  M  S  L  E  G  V  *  Q  M  L  P  T  A  L
       - Q  N  H  Y  T  Q  *  V  W  K  V  C  S  K  C  C  Q  Q  H  *
20881 - AAAAACACGAGGTAGAAAATGCAAGAAGTCACCATTGATTGCTCTCAGCACAGTACCCGG - 20940
       - K  N  T  R  *  K  M  Q  E  V  T  I  D  C  S  Q  H  S  T  R
       - K  T  R  G  R  K  C  K  K  S  P  L  I  A  L  S  T  V  P  G
       - K  H  E  V  E  N  A  R  S  H  H  *  L  L  S  A  Q  Y  P  V
20941 - TAAGCCAGGCACTATGAAACCAATCTCTCTTGTAATGATAGCAGCTACTACAGGGCAGCT - 21000
       - *  A  R  H  Y  E  T  N  L  S  C  N  D  S  S  Y  Y  R  A  A
       - K  P  G  T  M  K  P  I  S  L  V  M  I  A  A  T  T  G  Q  L
       - S  Q  A  L  *  N  Q  S  L  L  *  *  *  Q  L  L  Q  G  S  F
```

FIG. 12 Con't

```
21001 - TTTGTCATTTTTGTATGAACCACCACGCTGGCTAAACCATGCGTCAAAACCAGCATGTTT - 21060
        - F  V  I  F  V  *  T  T  T  L  A  K  P  C  V  K  T  S  M  F
        - L  S  F  L  Y  E  P  P  R  W  L  N  H  A  S  K  P  A  C  L
        - C  H  F  C  M  N  H  H  A  G  *  T  M  R  Q  N  Q  H  V  Y
21061 - ATTTGCAAAACAATCATCAGTAGAAATGATGTCACGAGTGACACCATCCTGAATGGCTTT - 21120
        - I  C  K  T  I  I  S  R  N  D  V  T  S  D  T  I  L  N  G  F
        - F  A  K  Q  S  S  V  E  M  M  S  R  V  T  P  S  *  M  A  L
        - L  Q  N  N  H  Q  *  K  *  C  H  E  *  H  H  P  E  W  L  C
21121 - GTAACCAATGATTTCATTTGTGTAACCATCATGGATTGACAATGTATGTACTGGCATAAC - 21180
        - V  T  N  D  F  I  C  V  T  I  M  D  *  Q  C  M  Y  W  H  N
        - *  P  M  I  S  F  V  *  P  S  W  I  D  N  V  C  T  G  I  T
        - N  Q  *  F  H  L  C  N  H  H  G  L  T  M  Y  V  L  A  *  R
21181 - GATATAACAAACCAATGCAGCAAGAACGCACAATAATGTGGCCTTAAGCATAAGTTTAAA - 21240
        - D  I  T  N  Q  C  S  K  N  A  Q  *  C  G  L  K  H  K  F  K
        - I  *  Q  T  N  A  A  R  T  H  N  N  V  A  L  S  I  S  L  K
        - Y  N  K  P  M  Q  Q  E  R  T  I  M  W  P  *  A  *  V  *  N
21241 - ACAAGTACTAACAATCTTACCACCCTTGAGTGAGATTTTAGTAGTTATGACATTGACAAC - 21300
        - T  S  T  N  N  L  T  T  L  E  *  D  F  S  S  Y  D  I  D  N
        - Q  V  L  T  I  L  P  P  L  S  E  I  L  V  V  M  T  L  T  T
        - K  Y  *  Q  S  Y  H  P  *  V  R  F  *  *  L  *  H  *  Q  P
21301 - CTGTCTAGTTGTAGCACAAGTTAGTGTAAAAGGTATGTTGTTCTTCTTGGCAGCAGTACG - 21360
        - L  S  S  C  S  T  S  *  C  K  R  Y  V  V  L  L  G  S  S  T
        - C  L  V  V  A  Q  V  S  V  K  G  M  L  F  F  L  A  A  V  R
        - V  *  L  *  H  K  L  V  *  K  V  C  C  S  S  W  Q  Q  Y  E
21361 - AATTTGTTTACGCAGCTGTTCAGATAAAGACATGTAGTCTTTTACATTCCAGATGAGTGA - 21420
        - N  L  F  T  Q  L  F  R  *  R  H  V  V  F  Y  I  P  D  E  *
        - I  C  L  R  S  C  S  D  K  D  M  *  S  F  T  F  Q  M  S  E
        - F  V  Y  A  A  V  Q  I  K  T  C  S  L  L  H  S  R  *  V  K
21421 - AACATTGTGACTTTTTGCTACTTGGGCATTGATATGCCTTGCATTACAGTCAATACATGC - 21480
        - N  I  V  T  F  C  Y  L  G  I  D  M  P  C  I  T  V  N  T  C
        - T  L  *  L  F  A  T  W  A  L  I  C  L  A  L  Q  S  I  H  A
        - H  C  D  F  L  L  L  G  H  *  Y  A  L  H  Y  S  Q  Y  M  R
21481 - GCCAAGATCTCTGGGCGTCATGTTTTCAACCTTATTATAGGTGAGCATGAAATTGTTACA - 21540
        - A  K  I  S  G  R  H  V  F  N  L  I  I  G  E  H  E  I  V  T
        - P  R  S  L  G  V  M  F  S  T  L  L  *  V  S  M  K  L  L  Q
        - Q  D  L  W  A  S  C  F  Q  P  Y  Y  R  *  A  *  N  C  Y  N
21541 - ACTGTCACCTGTCACTTCTAAGTCAGAGTGATGTGAAAGTTTGAGACATTCAATAACATC - 21600
        - T  V  T  C  H  F  *  V  R  V  M  *  K  F  E  T  F  N  N  I
        - L  S  P  V  T  S  K  S  E  *  C  E  S  L  R  H  S  I  T  S
        - C  H  L  S  L  L  S  Q  S  D  V  K  V  *  D  I  Q  *  H  P
21601 - CTTTGTGTCAACATCGGTATCAACAACACCTTGTCGGGCAGCTGACACGAATGTAGAAAG - 21660
        - L  C  V  N  I  G  I  N  N  T  L  S  G  S  *  H  E  C  R  K
        - F  V  S  T  S  V  S  T  T  P  C  R  A  A  D  T  N  V  E  R
        - L  C  Q  H  R  Y  Q  Q  H  L  V  G  Q  L  T  R  M  *  K  G
21661 - GACACCATCTAAAGCTACACCCTTTGCTAACTCGCTGTGAGCTGTAGCAACAAGTGCCTT - 21720
        - D  T  I  *  S  Y  T  L  C  *  L  A  V  S  C  S  N  K  C  L
        - T  P  S  K  A  T  P  F  A  N  S  L  *  A  V  A  T  S  A  L
        - H  H  L  K  L  H  P  L  L  T  R  C  E  L  *  Q  Q  V  P  *
21721 - AAGTTTTTCCATAGGAACACTAAAAGTTGCTGAAAAGGTGTCGACATAAGCATCAAACAT - 21780
        - K  F  F  H  R  N  T  K  S  C  *  K  G  V  D  I  S  I  K  H
        - S  F  S  I  G  T  L  K  V  A  E  K  V  S  T  *  A  S  N  I
        - V  F  P  *  E  H  *  K  L  L  K  R  C  R  H  K  H  Q  T  S
21781 - CTTAACGGAAACTTCAGTACTATCTCCAACGTTTGATACAAGAGCTTGGTCAAGCAACAG - 21840
        - L  N  G  N  F  S  T  I  S  N  V  *  Y  K  S  L  V  K  Q  Q
        - L  T  E  T  S  V  L  S  P  T  F  D  T  R  A  W  S  S  N  R
        - *  R  K  L  Q  Y  Y  L  Q  R  L  I  Q  E  L  G  Q  A  T  E
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FIG. 12 Con't

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21841 - AATAGGTTGGCACATCAGCTGACTGTAGTACACAGAAGCAGACTTAGAAGCAGACTCGTC - 21900
       - N  R  L  A  H  Q  L  T  V  V  H  R  S  R  L  R  S  R  L  V
       - I  G  W  H  I  S  *  L  *  Y  T  E  A  D  L  E  A  D  S  S
       - *  V  G  T  S  A  D  C  S  T  Q  K  Q  T  *  K  Q  T  R  R
21901 - GCATTTGGACTTGCCATCAAAAACTATGACATTAATAGGCAGTGAACCTTTAGTGTTGTT - 21960
       - A  F  G  L  A  I  K  N  Y  D  I  N  R  Q  *  T  F  S  V  V
       - H  L  D  L  P  S  K  T  M  T  L  I  G  S  E  P  L  V  L  L
       - I  W  T  C  H  Q  K  L  *  H  *  *  A  V  N  L  *  C  C  *
21961 - AGCTCTCAAATTGTCTAAATTGACAAAATGGGAGAGCGGATGTCTCTCATAGGTCTTTTG - 22020
       - S  S  Q  I  V  *  I  D  K  M  G  E  R  M  S  L  I  G  L  L
       - A  L  K  L  S  K  L  T  K  W  E  S  G  C  L  S  *  V  F  *
       - L  S  N  C  L  N  *  Q  N  G  R  A  D  V  S  H  R  S  F  D
22021 - ACCAGCCTTGTCAAAGTAGAGGTGAAGCGCGCCATTTTTCACAGCAACACTATCAACAAT - 22080
       - T  S  L  V  K  V  E  V  K  R  A  I  F  H  S  N  T  I  N  N
       - P  A  L  S  K  *  R  *  S  A  P  F  F  T  A  T  L  S  T  I
       - Q  P  C  Q  S  R  G  E  A  R  H  F  S  Q  Q  H  Y  Q  Q  Y
22081 - ATACGATGACTGGTCAGTAGGGTTGATTGGTCTTTTAAACTGGAGTGACAAATCACGAGC - 22140
       - I  R  *  L  V  S  R  V  D  W  S  F  K  L  E  *  Q  I  T  S
       - Y  D  D  W  S  V  G  L  I  G  L  L  N  W  S  D  K  S  R  A
       - T  M  T  G  Q  *  G  *  L  V  F  *  T  G  V  T  N  H  E  Q
22141 - AACTTCATCACTAATGAATGTACTACCAGTGCAAATGTGTCACAATTGAGACAATTCCA - 22200
       - N  F  I  T  N  E  C  T  T  S  A  K  C  V  T  I  E  T  I  P
       - T  S  S  L  M  N  V  L  P  V  Q  N  V  S  Q  L  R  Q  F  Q
       - L  H  H  *  *  M  Y  Y  Q  C  K  M  C  H  N  *  D  N  S  N
22201 - ATTGTGAGTCTTGCAGAAGCCACGGCCTCCATTTGCATAGACATAGAAAGATCTCTTCAT - 22260
       - I  V  S  L  A  E  A  T  A  S  I  C  I  D  I  E  R  S  L  H
       - L  *  V  L  Q  K  P  R  P  P  F  A  *  T  *  K  D  L  F  M
       - C  E  S  C  R  S  H  G  L  H  L  H  R  H  R  K  I  S  S  C
22261 - GCCATTAACAATAGTTGTACACTCAACGCGTGTGGCACGATTGCGCTTATAGCACATCAT - 22320
       - A  I  N  N  S  C  T  L  N  A  C  G  T  I  A  L  I  A  H  H
       - P  L  T  I  V  V  H  S  T  R  V  A  R  L  R  L  *  H  I  M
       - H  *  Q  *  L  Y  T  Q  R  V  W  H  D  C  A  Y  S  T  S  C
22321 - GCAAGTCGAAGAGGTGCAACCATCCATGATATGAACATAGCTCTTCCATATGTAGTAGAA - 22380
       - A  S  R  R  G  A  T  I  H  D  M  N  I  A  L  P  Y  V  V  E
       - Q  V  E  E  V  Q  P  S  M  I  *  T  *  L  F  H  M  *  *  K
       - K  S  K  R  C  N  H  P  *  Y  E  H  S  S  S  I  C  S  R  K
22381 - AGAAGCAAAGAAGATGTACATCCTAACCATTGCAGAAACGGGTGCCATTTGTACAATACT - 22440
       - R  S  K  E  D  V  H  P  N  H  C  R  N  G  C  H  L  Y  N  T
       - E  A  K  K  M  Y  I  L  T  I  A  E  T  G  A  I  C  T  I  L
       - K  Q  R  R  C  T  S  *  P  L  Q  K  R  V  P  F  V  Q  Y  *
22441 - AATGATAAACCACATGAGCCAAGAATTGCTGATGAAATGACTAGCAAAATAGCCAAAGAA - 22500
       - N  D  K  P  H  E  P  R  I  A  D  E  M  T  S  K  I  A  K  E
       - M  I  N  H  M  S  Q  E  L  L  M  K  *  L  A  K  *  P  K  N
       - *  *  T  T  *  A  K  N  C  *  *  N  D  *  Q  N  S  Q  R  T
22501 - CACCTGCATTATAGCTGAAAGACCTAATAAATAAAGAATTTTGTGAACAACATATATGC - 22560
       - H  L  H  Y  S  *  K  T  *  *  I  K  E  F  C  E  Q  H  I  C
       - T  C  I  I  A  E  R  P  N  K  *  K  N  F  V  N  N  I  Y  A
       - P  A  L  *  L  K  D  L  I  N  K  R  I  L  *  T  T  Y  M  P
22561 - CAAAACCCACTCAGCGGCCAGACCTAAAATTGTCAAGTCTAGCTTGTACGATGAAATCGT - 22620
       - Q  N  P  L  S  G  Q  T  *  N  C  Q  V  *  L  V  R  *  N  R
       - K  T  H  S  A  A  R  P  K  I  V  K  S  S  L  Y  D  E  I  V
       - K  P  T  Q  R  P  D  L  K  L  S  S  L  A  C  T  M  K  S  S
22621 - CACCTGAATGGTTTCAAGAGCTGGATAAGAATCAAGGGAGTCTAATCCACTTAAACAAAT - 22680
       - H  L  N  G  F  K  S  W  I  R  I  K  G  V  *  S  T  *  T  N
       - T  *  M  V  S  R  A  G  *  E  S  R  E  S  N  P  L  K  Q  M
       - P  E  W  F  Q  E  L  D  K  N  Q  G  S  L  I  H  L  N  K  C
```

FIG. 12 Con't

22681 - GCTGCAAGGAAAAGAACCTTCACAGAAATCCATAGTAGTAACGTTAGACGAATTAAGATA - 22740
        - A A R K R T F T E I H S S N V R R I K I
        - L Q G K E P S Q K S I V V T L D E L R Y
        - C K E K N L H R N P * * * R * T N * D T
22741 - CAATTCTCTAACGCCATTACAATAAGAAGGAGCACCAAAATTAGATAAGAGTACACCAAA - 22800
        - Q F S N A I T I R R S T K I R * E Y T K
        - N S L T P L Q * E G A P K L D K S T P K
        - I L * R H Y N K K E H Q N * I R V H Q K
22801 - AGCAGCAGTTACACAGATTAGAGAACCTAAGCAAATACTTAACAACAATAGCCACATAGC - 22860
        - S S S Y T D * R T * A N T * Q Q * P H S
        - A A V T Q I R E P K Q I L N N N S H I A
        - Q Q L H R L E N L S K Y L T T I A T * R
22861 - GATTGTGAACAATTTAGAAAATTTGGGTGACTTCACATAATTAATGCCGGCATCCAAACA - 22920
        - D C E Q F R K F G * L H I I N A G I Q T
        - I V N N L E N L G D F T * L M P A S K H
        - L * T I * K I W V T S H N * C R H P N I
22921 - TAATTTAGCAACACTCTTAACACTATTTTTAGCAATAGTTGTAGGTAGTGAAGCTCTAAT - 22980
        - * F S N T L N T I F S N S C R * * S S N
        - N L A T L L T L F L A I V V G S E A L I
        - I * Q H S * H Y F * Q * L * V V K L * F
22981 - TCTAGAATTGGTACTTTTAGTAAAAGTACACAATTGGAACAATAATGTAAACACATAAGG - 23040
        - S R I G T F S K S T Q L E Q * C K H I R
        - L E L V L L V K V H N W N N N V N T * G
        - * N W Y F * * K Y T I G T I M * T H K A
23041 - CATATAATTGTTAAACACACGTTGTGCTAATCTCTTAGCGCAATTTGATGTTGTAATTGC - 23100
        - H I I V K H T L C * S L S A I * C C N C
        - I * L L N T R C A N L L A Q F D V V I A
        - Y N C * T H V V L I S * R N L M L * L L
23101 - TGCTTGTCCTAAGAATGGTTTGACATAAGCCAAAATTTTACTCCAAGGAACACTATTAAT - 23160
        - C L S * E W F D I S Q N F T P R N T I N
        - A C P K N G L T * A K I L L Q G T L L I
        - L V L R M V * H K P K F Y S K E H Y * L
23161 - TGCAGCAATACCATGAGTGGCAATTGTTTTTAAACCTAAGGCTAGTGAAAGCTCATTAGG - 23220
        - C S N T M S G N C F * T * G * * K L I R
        - A A I P * V A I V F K P K A S E S S L G
        - Q Q Y H E W Q L F L N L R L V K A H * V
23221 - TTTCTTAATGGTAATGCTTGTGTTTTCCACATAAGCAGCCATAAGATCCTCATGACCTAA - 23280
        - F L N G N A C V F H I S S H K I L M T *
        - F L M V M L V F S T * A A I R S S * P N
        - S * W * C L C F P H K Q P * D P H D L T
23281 - CTCTTGTGTTACTTTAACACCTTCATCTGATGGTTTAAGTATGACATTGCCTACAACTTC - 23340
        - L L C Y F N T F I * W F K Y D I A Y N F
        - S C V T L T P S S D G L S M T L P T T S
        - L V L L * H L H L M V * V * H C L Q L R
23341 - GGTAGTTTTCACGTCACACTCTATGACTTCCTTCTGTATGGTAGGATTTTCCACTACTTC - 23400
        - G S F H V T L Y D F L L Y G R I F H Y F
        - V V F T S H S M T S F C M V G F S T T S
        - * F S R H T L * L P S V W * D F P L L L
23401 - TTCAGAGGTGGGTTGTTGACTTTCACAAGCAAGATTGTCCATTCCTTGTGTGTCTTCTAC - 23460
        - F R G G L L T F T S K I V H S L C V F Y
        - S E V G C * L S Q A R L S I P C V S S T
        - Q R W V V D F H K Q D C P F L V C L L L
23461 - TGCCAGAACTTCAAATGAATTTGAAGTATCTACTGGCTTTGTACTCCAAAGACAACGTAA - 23520
        - C Q N F K * I * S I Y W L C T P K T T *
        - A R T S N E F E V S T G F V L Q R Q R K
        - P E L Q M N L K Y L L A L Y S K D N V N

FIG. 12 Con't

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23521 - ACACCAAGTGTTTGGTTTGAACGTTGTCTTGGTTGTAGCCTGGTTAATGTGCCAAACAAT - 23580
      - T  P  S  V  W  F  E  R  C  L  G  C  S  L  V  N  V  P  N  N
      - H  Q  V  F  G  L  N  V  V  L  V  V  A  W  L  M  C  Q  T  I
      -  T  K  C  L  V  *  T  L  S  W  L  *  P  G  *  C  A  K  Q  L
23581 - TGGCTTATGCAGTAATTTAGCACCTTTCTTGAAACTCGCTGAATAGTGTCTATAGTCAAT - 23640
      - W  L  M  Q  *  F  S  T  F  L  E  T  R  *  I  V  S  I  V  N
      - G  L  C  S  N  L  A  P  F  L  K  L  A  E  *  C  L  *  S  I
      -  A  Y  A  V  I  *  H  L  S  *  N  S  L  N  S  V  Y  S  Q  *
23641 - AGCCACTACATCGCCATTCAAGTCTGGGAAGAATGTGACAGATAGCTCTCGTGAAGCTGG - 23700
      - S  H  Y  I  A  I  Q  V  W  E  E  C  D  R  *  L  S  *  S  W
      - A  T  T  S  P  F  K  S  G  K  N  V  T  D  S  S  R  E  A  G
      -  P  L  H  R  H  S  S  L  G  R  M  *  Q  I  A  L  V  K  L  A
23701 - CTTTGTGAAGCCTGTCATTTGATTTAAATCATCAGCAAATTTTGTGTTAGAACATGTGAG - 23760
      - L  C  E  A  C  H  L  I  *  I  I  S  K  F  C  V  R  T  C  E
      - F  V  K  P  V  I  *  F  K  S  S  A  N  F  V  L  E  H  V  S
      -  L  *  S  L  S  F  D  L  N  H  Q  Q  I  L  C  *  N  M  *  V
23761 - TTTGAAATTATCAAAACTCGCATTTGGTAATGGTTGAGTTGGTACAAGGTCTATAGGCTG - 23820
      - F  E  I  I  K  T  R  I  W  *  W  L  S  W  Y  K  V  Y  R  L
      - L  K  L  S  K  L  A  F  G  N  G  *  V  G  T  R  S  I  G  C
      -  *  N  Y  Q  N  S  H  L  V  M  V  E  L  V  Q  G  L  *  A  A
23821 - CTCTGTATAGTAAGCATTATCCTTTTTATAATACCCATCCAATTTTGGTTCAATCTCTGT - 23880
      - L  C  I  V  S  I  I  L  F  I  I  P  I  Q  F  W  F  N  L  C
      - S  V  *  *  A  L  S  F  L  *  Y  P  S  N  F  G  S  I  S  V
      -  L  Y  S  K  H  Y  P  F  Y  N  T  H  P  I  L  V  Q  S  L  C
23881 - GTAAGTAACTCCATCGAGTTTATACGACACAGGCTTGATGGTTGTAGTGTAAGATGTTTC - 23940
      - V  S  N  S  I  E  F  I  R  H  R  L  D  G  C  S  V  R  C  F
      - *  V  T  P  S  S  L  Y  D  T  G  L  M  V  V  V  *  D  V  S
      -  K  *  L  H  R  V  Y  T  T  Q  A  *  W  L  *  C  K  M  F  P
23941 - CTTGTAGAAAACATCAGTCACTGGTCCTTTGTACTCTGACATCTTTGTAAGGTGAGCTCC - 24000
      - L  V  E  N  I  S  H  W  S  F  V  L  *  H  L  C  K  V  S  S
      - L  *  K  T  S  V  T  G  P  L  Y  S  D  I  F  V  R  *  A  P
      -  C  R  K  H  Q  S  L  V  L  C  T  L  T  S  L  *  G  E  L  R
24001 - GTCAATACGATAGAGGGTCTCCTTAGCAGTTATATGAGTGTAATGACCACACTGATAGTT - 24060
      - V  N  T  I  E  G  L  L  S  S  Y  M  S  V  M  T  T  L  I  V
      - S  I  R  *  R  V  S  L  A  V  I  *  V  *  *  P  H  *  *  L
      -  Q  Y  D  R  G  S  P  *  Q  L  Y  E  C  N  D  H  T  D  S  Y
24061 - ACCAGTGTACTCATTCGCACATAAGAATGTACCTTGCTGTAATTTATACTCAGCAGGTGG - 24120
      - T  S  V  L  I  R  T  *  E  C  T  L  L  *  F  I  L  S  R  W
      - P  V  Y  S  F  A  H  K  N  V  P  C  C  N  L  Y  S  A  G  G
      -  Q  C  T  H  S  H  I  R  M  Y  L  A  V  I  Y  T  Q  Q  V  V
24121 - TGCAGACATCATAACAAAAGAAGACTCTTGTTGTACTAGATATTGTGTAGCATCACGACC - 24180
      - C  R  H  H  N  K  R  R  L  L  L  Y  *  I  L  C  S  I  T  T
      - A  D  I  I  T  K  E  D  S  C  C  T  R  Y  C  V  A  S  R  P
      -  Q  T  S  *  Q  K  K  T  L  V  V  L  D  I  V  *  H  H  D  H
24181 - ACACACACATGGAATGGAAACACCTGTCTTAAGATTATCATAAGATAGAGTACCCATATA - 24240
      - T  H  T  W  N  G  N  T  C  L  K  I  I  I  R  *  S  T  H  I
      - H  T  H  G  M  E  T  P  V  L  R  L  S  *  D  R  V  P  I  Y
      -  T  H  M  E  W  K  H  L  S  *  D  Y  H  K  I  E  Y  P  Y  T
24241 - CATCACAGCTTCTACACCCGTTAAGGTAGTAGTTTTCTGACCACAATGTTTACACACCAC - 24300
      - H  H  S  F  Y  T  R  *  G  S  S  F  L  T  T  M  F  T  H  H
      - I  T  A  S  T  P  V  K  V  V  V  F  *  P  Q  C  L  H  T  T
      -  S  Q  L  L  H  P  L  R  *  *  F  S  D  H  N  V  Y  T  P  H
24301 - ATTAAGAACTCGCTTTGCAGATTCCAAATTAGCATGCTGTAGAAGATGGGTCATAGTTTC - 24360
      - I  K  N  S  L  C  R  F  Q  I  S  M  L  *  K  M  G  H  S  F
      - L  R  T  R  F  A  D  S  K  L  A  C  C  R  R  W  V  I  V  S
      -  *  E  L  A  L  Q  I  P  N  *  H  A  V  E  D  G  S  *  F  L
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FIG. 12 Con't

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24361 - TCTGACATCACCAAGCTCGCCAACAGTTTTATTACTGTAAGCGAGTATGAGTGCACAAAA - 24420
      - S  D  I  T  K  L  A  N  S  F  I  T  V  S  E  Y  E  C  T  K
      - L  T  S  P  S  S  P  T  V  L  L  L  *  A  S  M  S  A  Q  K
      - *  H  H  Q  A  R  Q  Q  F  Y  Y  C  K  R  V  *  V  H  K  S
24421 - GTTAGCAGCATCACCAGCACGGGCTCTATAATAAGCCTCTTGAAGTGCTGGTGCATTGAA - 24480
      - V  S  S  I  T  S  T  G  S  I  I  S  L  L  K  C  W  C  I  E
      - L  A  A  S  P  A  R  A  L  *  *  A  S  *  S  A  G  A  L  N
      - *  Q  H  H  Q  H  G  L  Y  N  K  P  L  E  V  L  V  H  *  I
24481 - TTTGACTTCAAGCTGTTGAAGTGCTAATAAAACACTAGACAAATAACAATTGTTATCAGC - 24540
      - F  D  F  K  L  L  K  C  *  *  N  T  R  Q  I  T  I  V  I  S
      - L  T  S  S  C  *  S  A  N  K  T  L  D  K  *  Q  L  L  S  A
      - *  L  Q  A  V  E  V  L  I  K  H  *  T  N  N  C  Y  Q  P
24541 - CCATTTAATTGAAGTTAAACCACCAACTTGAGGAAATTTCCATTTCTTTGTGTGGTTTAA - 24600
      - P  F  N  *  S  *  T  T  N  L  R  K  F  P  F  L  C  V  V  *
      - H  L  I  E  V  K  P  P  T  *  G  N  F  H  F  F  V  W  F  K
      - I  *  L  K  L  N  H  Q  L  E  E  I  S  I  S  L  C  G  L  K
24601 - AGCAGACATGTACCTACCAAGAAAACTCTCATCAAGAGTATGGTAGTACTCGAAAGCTTC - 24660
      - S  R  H  V  P  T  K  K  T  L  I  K  S  M  V  V  L  E  S  F
      - A  D  M  Y  L  P  R  K  L  S  S  R  V  W  *  Y  S  K  A  S
      - Q  T  C  T  Y  Q  E  N  S  H  Q  E  Y  G  S  T  R  K  L  H
24661 - ACTACGTAGTGTGTCATCACTAGGTAGTACAAAGAAAGTCTTACCCTCATGATTACATG - 24720
      - T  T  *  C  V  I  T  R  *  Y  K  E  S  L  T  L  M  I  Y  M
      - L  R  S  V  S  S  L  G  S  T  K  K  V  L  P  S  *  F  T  *
      - Y  V  V  C  H  H  *  V  V  Q  R  K  S  Y  P  H  D  L  H  E
24721 - AGGTTTAATTTTTGTAACATCAGCACCATCCAAGTATGTTGGACCAAACTGCTGTCCATA - 24780
      - R  F  N  F  C  N  I  S  T  I  Q  V  C  W  T  K  L  L  S  I
      - G  L  I  F  V  T  S  A  P  S  K  Y  V  G  P  N  C  C  P  Y
      - V  *  F  L  *  H  Q  H  H  P  S  M  L  D  Q  T  A  V  H  M
24781 - TGTCATAGACATATCCACAAGCTGTGTGTGGAGATTAGTGTTGTCCACAGTTGTGAACAC - 24840
      - C  H  R  H  I  H  K  L  C  V  E  I  S  V  V  H  S  C  E  H
      - V  I  D  I  S  T  S  C  V  W  R  L  V  L  S  T  V  V  N  T
      - S  *  T  Y  P  Q  A  V  C  G  D  *  C  C  P  Q  L  *  T  L
24841 - TTTTATAGTCTTAACCTCCCGCAGGGATAAGAGACTCTTTAGTTTGTCAAGTGAAAGAAC - 24900
      - F  Y  S  L  N  L  P  Q  G  *  E  T  L  *  F  V  K  *  K  N
      - F  I  V  L  T  S  R  R  D  K  R  L  F  S  L  S  S  E  R  T
      - L  *  S  *  P  P  A  G  I  R  D  S  L  V  C  Q  V  K  E  P
24901 - CTCACCGTCAAGATGAAACTCGACGGGGCTCTCCAGAGTGTGGTACACAATTTTGTCACC - 24960
      - L  T  V  K  M  K  L  D  G  A  L  Q  S  V  V  H  N  F  V  T
      - S  P  S  R  *  N  S  T  G  L  S  R  V  W  Y  T  I  L  S  P
      - H  R  Q  D  E  T  R  R  G  S  P  E  C  G  T  Q  F  C  H  H
24961 - ACGCTTAAGAAATTCAACACCTAACTCTGTACGCTGTCCTGAATAGGACCAATCTCTGTA - 25020
      - T  L  K  K  F  N  T  *  L  C  T  L  S  *  I  G  P  I  S  V
      - R  L  R  N  S  T  P  N  S  V  R  C  P  E  *  D  Q  S  L  *
      - A  *  E  I  Q  H  L  T  L  Y  A  V  L  N  R  T  N  L  C  K
25021 - AGAGCCAGCCAAAGAAACTGTTTCTACAAAGTGCTCCTCAGATGTCTTTGATGACGAAGT - 25080
      - R  A  S  Q  R  N  C  F  Y  K  V  L  L  R  C  L  *  *  R  S
      - E  P  A  K  E  T  V  S  T  K  C  S  S  D  V  F  D  D  E  V
      - S  Q  P  K  K  L  F  L  Q  S  A  P  Q  M  S  L  M  T  K  *
25081 - GAGGTATCCATTATATGTAGTAACAGCATCTGGTGATGATACTGACACTACGGCAGGAGC - 25140
      - E  V  S  I  I  C  S  N  S  I  W  *  *  Y  *  H  Y  G  R  S
      - R  Y  P  L  Y  V  V  T  A  S  G  D  D  T  D  T  T  A  G  A
      - G  I  H  Y  M  *  *  Q  H  L  V  M  I  L  T  L  R  Q  E  L
25141 - TTTAAGAGAACGCATACAGCGCGCAGCCTCTTCAAGATTAAAACCATGTGTCACATAACC - 25200
      - F  K  R  T  H  T  A  R  S  L  F  K  I  K  T  M  C  H  I  T
      - L  R  E  R  I  Q  R  A  A  S  S  R  L  K  P  C  V  T  *  P
      - *  E  N  A  Y  S  A  Q  P  L  Q  D  *  N  H  V  S  H  N  Q
```

FIG. 12 Con't

```
25201 - AATTGGCATTGTGACAAGCGGCTCATTTAGAGAGTTCAGCTTCGTAATAATAGAAGCTAC - 25260
       - N  W  H  C  D  K  R  L  I  *  R  V  Q  L  R  N  N  R  S  Y
       -  I  G  I  V  T  S  G  S  F  R  E  F  S  F  V  I  I  E  A  T
       -   L  A  L  *  Q  A  A  H  L  E  S  S  A  S  *  *  *  K  L  Q
25261 - AGGCTCTTTACTAGTATAAAAGAAGAATCGGACACCATAGTCAACGATGCCCTCTTGAAT - 25320
       - R  L  F  T  S  I  K  E  E  S  D  T  I  V  N  D  A  L  L  N
       -  G  S  L  L  V  *  K  K  N  R  T  P  *  S  T  M  P  S  *  I
       -   A  L  Y  *  Y  K  R  R  I  G  H  H  S  Q  R  C  P  L  E  F
25321 - TTTAATTCCTTTATACTTACGTTGGATGGTTGCCATTATGGCTCTAACATCCATGCATAT - 25380
       - F  N  S  F  I  L  T  L  D  G  C  H  Y  G  S  N  I  H  A  Y
       -  L  I  P  L  Y  L  R  W  M  V  A  I  M  A  L  T  S  M  H  I
       -   *  F  L  Y  T  Y  V  G  W  L  P  L  W  L  *  H  P  C  I  *
25381 - AGGCATTAATTTTCTTGTCTCTTCAGCATGAGCAAGCATTTCTCTCAAATTCCAGGATAC - 25440
       - R  H  *  F  S  C  L  F  S  M  S  K  H  F  S  Q  I  P  G  Y
       -  G  I  N  F  L  V  S  S  A  *  A  S  I  S  L  K  F  Q  D  T
       -   A  L  I  F  L  S  L  Q  H  E  Q  A  F  L  S  N  S  R  I  Q
25441 - AGTTCCTAGAATCTCTTCCTTAGCATTAGGTGCTTCTGAAGGTAGTACATAAAATGCAGA - 25500
       - S  S  *  N  L  F  L  S  I  R  C  F  *  R  *  Y  I  K  C  R
       -  V  P  R  I  S  S  L  A  L  G  A  S  E  G  S  T  *  N  A  D
       -   F  L  E  S  L  P  *  H  *  V  L  L  K  V  V  H  K  M  Q  I
25501 - TTTGCATTTCTTAAGAGCAGTCTTAGCTTCCTCAAGTGTATAACCAGCACATCCTTGTCC - 25560
       - F  A  F  L  K  S  S  L  S  F  L  K  C  I  T  S  T  S  L  S
       -  L  H  F  L  R  A  V  L  A  S  S  S  V  *  P  A  H  P  C  P
       -   C  I  S  *  E  Q  S  *  L  P  Q  V  Y  N  Q  H  I  L  V  Q
25561 - AGGGTACGTGGTTATATACTCATCAACTGGCACTTTCTTCAAAGCTCTTGAGAGCATCTC - 25620
       - R  V  R  G  Y  I  L  I  N  W  H  F  L  Q  S  S  *  E  H  L
       -  G  Y  V  V  I  Y  S  S  T  G  T  F  F  K  A  L  E  S  I  S
       -   G  T  W  L  Y  T  H  Q  L  A  L  S  S  K  L  L  R  A  S  Q
25621 - AGTAGTGCCACCAGCCTTTTTGGAGGGTATTACAACACAAGTGATATCACCACTAGTGAT - 25680
       - S  S  A  T  S  L  F  G  G  Y  Y  N  T  S  D  I  T  T  S  D
       -  V  V  P  P  A  F  L  E  G  I  T  T  Q  V  I  S  P  L  V  I
       -   *  C  H  Q  P  F  W  R  V  L  Q  H  K  *  Y  H  H  *  *  *
25681 - AACATCACCTACCATGTAAGGTGCATCCTTCTCAAGGAAAGACATATCTTCACCTCTAAG - 25740
       - N  I  T  Y  H  V  R  C  I  L  L  K  E  R  H  I  F  T  S  K
       -  T  S  P  T  M  *  G  A  S  F  S  R  K  D  I  S  S  P  L  S
       -   H  H  L  P  C  K  V  H  P  S  Q  G  K  T  Y  L  H  L  *  A
25741 - CATGTTCTGAGAATCATGGTAAAGCTTACCATTGATATCAGCAAACAAGAGTAACTTATT - 25800
       - H  V  L  R  I  M  V  K  L  T  I  D  I  S  K  Q  E  *  L  I
       -  M  F  *  E  S  W  *  S  L  P  L  I  S  A  N  K  S  N  L  L
       -   C  S  E  N  H  G  K  A  Y  H  *  Y  Q  Q  T  R  V  T  Y  W
25801 - GGTAAGAAACTTAGTTTCTTCCAGTGTTGTGGTAACCTCATCAATGCAGGCCTTAATTTT - 25860
       - G  K  K  L  S  F  F  Q  C  C  G  N  L  I  N  A  G  L  N  F
       -  V  R  N  L  V  S  S  S  V  V  V  T  S  S  M  Q  A  L  I  F
       -   *  E  T  *  F  L  P  V  L  W  *  P  H  Q  C  R  P  *  F  L
25861 - TGGCTTCACATCGACAGGCTTCTGTACGACAGATTTCTCCTCAGTTTTGGAATCTTCTGT - 25920
       - W  L  H  I  D  R  L  L  Y  D  R  F  L  L  S  F  G  I  F  C
       -  G  F  T  S  T  G  F  C  T  T  D  F  S  S  V  L  E  S  S  V
       -   A  S  H  R  Q  A  S  V  R  Q  I  S  P  Q  F  W  N  L  L  C
25921 - GTTTGGTGGCTCCTCTTGTTTAGGTGCTTCCACTCTAGGCTTCAGGTTATCAAGATAATC - 25980
       - V  W  W  L  L  L  F  R  C  F  H  S  R  L  Q  V  I  K  I  I
       -  F  G  G  S  S  C  L  G  A  S  T  L  G  F  R  L  S  R  *  S
       -   L  V  A  P  L  V  *  V  L  P  L  *  A  S  G  Y  Q  D  N  P
25981 - CATGACAACCTGCTCATAAAGAGCTTTGTCATTGACTGCAATATAAACCTGTGTACGAAC - 26040
       - H  D  N  L  L  I  K  S  F  V  I  D  C  N  I  N  L  C  T  N
       -  M  T  T  C  S  *  R  A  L  S  L  T  A  I  *  T  C  V  R  T
       -   *  Q  P  A  H  K  E  L  C  H  *  L  Q  Y  K  P  V  Y  E  P
```

FIG. 12 Con't

```
26041 - CGTCTGCACGCACACTTGTAAAGACTGAAGTGGTTTAGCACCAAATATGCCTGCTGACAA - 26100
       - R  L  H  A  H  L  *  R  L  K  W  F  S  T  K  Y  A  C  *  Q
       - V  C  T  H  T  C  K  D  *  S  G  L  A  P  N  M  P  A  D  N
       - S  A  R  T  L  V  K  T  E  V  V  *  H  Q  I  C  L  L  T  T
26101 - CAATGGTGCAAGTAAGATGTCCTGTGAATTGAAATTTTCATATGCTGCCTTAAGAAGCTG - 26160
       - Q  W  C  K  *  D  V  L  *  I  E  I  F  I  C  C  L  K  K  L
       - N  G  A  S  K  M  S  C  E  L  K  F  S  Y  A  A  L  R  S  W
       - M  V  Q  V  R  C  P  V  N  *  N  F  H  M  L  P  *  E  A  G
26161 - GATGTCCTCACCTGCATTTAGGTTAGGTCCAACAACATGCAGACACTTCTTAGCAAGATT - 26220
       - D  V  L  T  C  I  *  V  R  S  N  N  M  Q  T  L  L  S  K  I
       - M  S  S  P  A  F  R  L  G  P  T  T  C  R  H  F  L  A  R  L
       - C  P  H  L  H  L  G  *  V  Q  Q  H  A  D  T  S  *  Q  D  Y
26221 - ATGTCCAGAAAGCAAACAAGACCCTCCTACTGTAAGAGGGCCATTTAGCTTAATGTAATC - 26280
       - M  S  R  K  Q  T  R  P  S  Y  C  K  R  A  I  *  L  N  V  I
       - C  P  E  S  K  Q  D  P  P  T  V  R  G  P  F  S  L  M  *  S
       - V  Q  K  A  N  K  T  L  L  *  E  G  H  L  A  *  C  N  H
26281 - ATCACTCTCCTTTTGCATGGCACCATTGGTTGCCTTGTTGAGTGCACCTGCTACACCACC - 26340
       - I  T  L  L  L  H  G  T  I  G  C  L  V  E  C  T  C  Y  T  T
       - S  L  S  F  C  M  A  P  L  V  A  L  L  S  A  P  A  T  P  P
       - H  S  P  F  A  W  H  H  W  L  P  C  *  V  H  L  L  H  H  H
26341 - ACCATGTTTCAGGTGTATGTTAGCAGCATTTACAATCACCATAGGATTAGCACTTTGTGC - 26400
       - T  M  F  Q  V  Y  V  S  S  I  Y  N  H  H  R  I  S  T  L  C
       - P  C  F  R  C  M  L  A  A  F  T  I  T  I  G  L  A  L  C  A
       - H  V  S  G  V  C  *  Q  H  L  Q  S  P  *  D  *  H  F  V  P
26401 - CTCCTTAACGATGTCAACACATTTAATGGCAACATTGTCAGTAAGTTTTAAATAACCAGT - 26460
       - L  L  N  D  V  N  T  F  N  G  N  I  V  S  K  F  *  I  T  S
       - S  L  T  M  S  T  H  L  M  A  T  L  S  V  S  F  K  *  P  V
       - P  *  R  C  Q  H  I  *  W  Q  H  C  Q  *  V  L  N  N  Q  *
26461 - AAACTGATTAACTGGTTCTTCAGGTGTAGGTTCTGGTTCTGGCTCAATCTCTGATTGCTC - 26520
       - K  L  I  N  W  F  F  R  C  R  F  W  F  W  L  N  L  *  L  L
       - N  *  L  T  G  S  S  G  V  G  S  G  S  G  S  I  S  D  C  S
       - T  D  *  L  V  L  Q  V  *  V  L  V  L  A  Q  S  L  I  A  Q
26521 - AGTAGTATCATCCAGCCAGTCTTCCTCTTCTTCTTCCTCAACTCGAACTGTTTCAGCTGA - 26580
       - S  S  I  I  Q  P  V  F  L  F  F  F  L  N  S  N  C  F  S  *
       - V  V  S  S  S  Q  S  S  S  S  S  S  S  T  R  T  V  S  A  E
       - *  Y  H  P  A  S  L  P  L  L  L  P  Q  L  E  L  F  Q  L  R
26581 - GGCACCAAATTCCAGAGGGAGACCTTGATAATCATCCTCTGTACCGTACTCATGTTCACA - 26640
       - G  T  K  F  Q  R  E  T  L  I  I  I  L  C  T  V  L  M  F  T
       - A  P  N  S  R  G  R  P  *  *  S  S  S  V  P  Y  S  C  S  Q
       - H  Q  I  P  E  G  D  L  D  N  H  P  L  Y  R  T  H  V  H  R
26641 - GGTTTCATCAATTTCTTCTTCCTCACACTCTGCATCGTCCTCTTCCTCATCTGGAGG - 26700
       - G  F  I  N  F  F  F  L  T  L  C  I  V  L  F  F  L  I  W  R
       - V  S  S  I  S  S  S  S  H  S  A  S  S  S  S  S  S  S  G  G
       - F  H  Q  F  L  L  P  H  T  L  H  R  P  L  L  P  H  L  E  G
26701 - GTAAAAGGAACAATACATACGTGATGAAAGTTTTCTTCACCAGCATCATCAAATAAGTA - 26760
       - V  K  G  T  I  H  T  *  *  K  V  F  F  T  S  I  I  K  *  V
       - *  K  E  Q  Y  I  R  D  E  K  F  S  S  P  A  S  S  N  K  *
       - K  R  N  N  T  Y  V  M  K  S  F  L  H  Q  H  H  Q  I  S  R
26761 - GAATGTAGCTACACTCCACTCATCAAGATCAATACCCATGTTGGTAAGGAGATCAGAAAC - 26820
       - E  C  S  Y  T  P  L  I  K  I  N  T  H  V  G  K  E  I  R  N
       - N  V  A  T  L  H  S  S  R  S  I  P  M  L  V  R  R  S  E  T
       - M  *  L  H  S  T  H  Q  D  Q  Y  P  C  W  *  G  D  Q  K  L
26821 - TGGTTGTAAAGTCTTCACAACAGCCTCTGCTACAACACATGCAAACTCAGTAACTTCGGT - 26880
       - W  L  *  S  L  H  N  S  L  C  Y  N  T  C  K  L  S  N  F  G
       - G  C  K  V  F  T  T  A  S  A  T  T  H  A  N  S  V  T  S  V
       - V  V  K  S  S  Q  Q  P  L  L  Q  H  M  Q  T  Q  *  L  R  Y
```

FIG. 12 Con't

```
26881 - ACCGGATTCAACAGTGTAGACAGAGCACTTTTCATTAAGCACTTTGTCAACACGTTCATC - 26940
      - T  G  F  N  S  V  D  R  A  L  F  I  K  H  F  V  N  T  F  I
      -  P  D  S  T  V  *  T  E  H  F  S  L  S  T  L  S  T  R  S  S
      -   R  I  Q  Q  C  R  Q  S  T  F  H  *  A  L  C  Q  H  V  H  Q
26941 - AAGCTCAAATGTGATTCTCACATTCTTGTAACCTTGAACTTCCCAAACAGTATCTTCTCC - 27000
      - K  L  K  C  D  S  H  I  L  V  T  L  N  F  P  N  S  I  F  S
      -  S  S  N  V  I  L  T  F  L  *  P  *  T  S  Q  T  V  S  S  P
      -   A  Q  M  *  F  S  H  S  C  N  L  E  L  P  K  Q  Y  L  L  Q
27001 - AAAGGTTACACCTTTAATTGGTGCACCCCCTTTTAAGCGAAAGACATTGTTTGTAGCCAG - 27060
      - K  G  Y  T  F  N  W  C  T  P  F  *  A  K  D  I  V  C  S  Q
      -  K  V  T  P  L  I  G  A  P  P  F  K  R  K  T  L  F  V  A  S
      -   R  L  H  L  *  L  V  H  P  L  L  S  E  R  H  C  L  *  P  V
27061 - TAAACCAGGAGACAATGCGCAGTATTGTTCTTTGTCCTTAATCTCTAAGAGCATGAGGCC - 27120
      - *  T  R  R  Q  C  A  V  L  F  F  V  L  N  L  *  E  H  E  A
      -  K  P  G  D  N  A  Q  Y  C  S  L  S  L  I  S  K  S  M  R  P
      -   N  Q  E  T  M  R  S  I  V  L  C  P  *  S  L  R  A  *  G  H
27121 - ATTTACACAGACTGGTGTGCCGACGATAGCTCCATTTGTGAAGCTATCAACGGGCGTCTC - 27180
      - I  Y  T  D  W  C  A  D  D  S  S  I  C  E  A  I  N  G  R  L
      -  F  T  Q  T  G  V  P  T  I  A  P  F  V  K  L  S  T  G  V  S
      -   L  H  R  L  V  C  R  R  *  L  H  L  *  S  Y  Q  R  A  S  R
27181 - GAGTGCTTCGAGTTCACCGTTCTTGAGAACAACCTCCTCAGAGGTAAGTACTGTGTCATG - 27240
      - E  C  F  E  F  T  V  L  E  N  N  L  L  R  G  K  Y  C  V  M
      -  S  A  S  S  S  P  F  L  R  T  T  S  S  E  V  S  T  V  S  C
      -   V  L  R  V  H  R  S  *  E  Q  P  P  Q  R  *  V  L  C  H  V
27241 - TGAATCACCTTCAAGAAAGGTTACTTCTTTTGGTGCCTTAAGAGGCATGAGTAGTTGCAG - 27300
      - *  I  T  F  K  K  G  Y  F  F  W  C  L  K  R  H  E  *  L  Q
      -  E  S  P  S  R  K  V  T  S  F  G  A  L  R  G  M  S  S  C  S
      -   N  H  L  Q  E  R  L  L  L  L  V  P  *  E  A  *  V  V  A  A
27301 - CTGCTCCTTGCCACGTATACACTGACGGTAAAGTCCCTTGCTTTGAGCGATGAAGACTTC - 27360
      - L  L  L  A  T  Y  T  L  T  V  K  S  L  A  L  S  D  E  D  F
      -  C  S  L  P  R  I  H  *  R  *  S  P  L  L  *  A  M  K  T  S
      -   A  P  C  H  V  Y  T  D  G  K  V  P  C  F  E  R  *  R  L  H
27361 - ACCTAAGTTGAGTGATCGCAACTTTGCGCCAGCGATAGTGACTTGATCAATGCACATTTC - 27420
      - T  *  V  E  *  S  Q  L  C  A  S  D  S  D  L  I  N  A  H  F
      -  P  K  L  S  D  R  N  F  A  P  A  I  V  T  *  S  M  H  I  S
      -   L  S  *  V  I  A  T  L  R  Q  R  *  *  L  D  Q  C  T  F  R
27421 - GAGTGCCTTGTTAACAACATCAATGAAGCATTTTACACAATCCTTGATGTTATCTGAAGC - 27480
      - E  C  L  V  N  N  I  N  E  A  F  Y  T  I  L  D  V  I  *  S
      -  S  A  L  L  T  T  S  M  K  H  F  T  Q  S  L  M  L  S  E  A
      -   V  P  C  *  Q  H  Q  *  S  I  L  H  N  P  *  C  Y  L  K  Q
27481 - AACCTGTATTTGACCCTTGACGATGTCAAAAACACCTGTAATGAGAAATTTGAGAATCTC - 27540
      - N  L  Y  L  T  L  D  D  V  K  N  T  C  N  E  K  F  E  N  L
      -  T  C  I  *  P  L  T  M  S  K  T  P  V  M  R  N  L  R  I  S
      -   P  V  F  D  P  *  R  C  Q  K  H  L  *  *  E  I  *  E  S  P
27541 - CCAAGCATCCTTGAGAAATTCAACTCCTGCACTAAGTTTCGCCTCAATCCATTCAAAGAT - 27600
      - P  S  I  L  E  K  F  N  S  C  T  K  F  R  L  N  P  F  K  D
      -  Q  A  S  L  R  N  S  T  P  A  L  S  F  A  S  I  H  S  K  I
      -   K  H  P  *  E  I  Q  L  L  H  *  V  S  P  Q  S  I  Q  R  *
27601 - AGGCCTGAGTTTTTCAACAGTAGTGCCCAAAAGATTAGACAACCACTGAGAAGTCTGTTG - 27660
      - R  P  E  F  F  N  S  S  A  Q  K  I  R  Q  P  L  R  S  L  L
      -  G  L  S  F  S  T  V  V  P  K  R  L  D  N  H  *  E  V  C  C
      -   A  *  V  F  Q  Q  *  C  P  K  D  *  T  T  T  E  K  S  V  V
27661 - TACAAGACCACCAGTTACATATGCCATAATAATGACACTGTTGGTGAGCAGGTCTGAAGT - 27720
      - Y  K  T  T  S  Y  I  C  H  N  N  D  T  V  G  E  Q  V  *  S
      -  T  R  P  P  V  T  Y  A  I  I  M  T  L  L  V  S  R  S  E  V
      -   Q  D  H  Q  L  H  M  P  *  *  *  H  C  W  *  A  G  L  K  Y
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FIG. 12 Con't

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27721 - ATAAACCATGGCGTCGACAAGACGTAATGACTGTTCAGAAATACCATCAAGTATGGTGAC - 27780
       - I  N  H  G  V  D  K  T  *  *  L  F  R  N  T  I  K  Y  G  D
       - *  T  M  A  S  T  R  R  N  D  C  S  E  I  P  S  S  M  V  T
       - K  P  W  R  R  Q  D  V  M  T  V  Q  K  Y  H  Q  V  W  *  Q
27781 - AGCTGCTCTTTGCAAATCAGGAATTGAGTGGTTTGCTGCATCAAGTGTGCGCGCAAAAAT - 27840
       - S  C  S  L  Q  I  R  N  *  V  V  C  C  I  K  C  A  R  K  N
       - A  A  L  C  K  S  G  I  E  W  F  A  A  S  S  V  R  A  K  I
       - L  L  F  A  N  Q  E  L  S  G  L  L  H  Q  V  C  A  Q  K  L
27841 - TGATCTGATAACACCAGCAGCCTGTGAGGGAAAACCACACAGTGGTGTTAAAACTGATCT - 27900
       - *  S  D  N  T  S  S  L  *  G  K  T  T  Q  W  C  *  N  *  S
       - D  L  I  T  P  A  A  C  E  G  K  P  H  S  G  V  K  T  D  L
       - I  *  *  H  Q  Q  P  V  R  E  N  H  T  V  V  L  K  L  I  S
27901 - CTGTTGTCCAATGTTCCAAGCACCTTTTACGGGCTTTCCCTTGGTAACTTTATAGTTACC - 27960
       - L  L  S  N  V  P  S  T  F  Y  G  L  S  L  G  N  F  I  V  T
       - C  C  P  M  F  Q  A  P  F  T  G  F  P  L  V  T  L  *  L  P
       - V  V  Q  C  S  K  H  L  L  R  A  F  P  W  *  L  Y  S  Y  R
27961 - GCAGGACTCAACAATGGTTTTGAAAGACTTGTAATCAAGACTCTTTATAGTGTCAATAAA - 28020
       - A  G  L  N  N  G  F  E  R  L  V  I  K  T  L  Y  S  V  N  K
       - Q  D  S  T  M  V  L  K  D  L  *  S  R  L  F  I  V  S  I  K
       - R  T  Q  Q  W  F  *  K  T  C  N  Q  D  S  L  *  C  Q  *  R
28021 - GGCACTTGTAGAAGCAGAGAAAGATGCCAAAATGATGGCAACCTCTTCATTCAAATGAAA - 28080
       - G  T  C  R  S  R  E  R  C  Q  N  D  G  N  L  F  I  Q  M  K
       - A  L  V  E  A  E  K  D  A  K  M  M  A  T  S  S  F  K  *  K
       - H  L  *  K  Q  R  K  M  P  K  *  W  Q  P  L  H  S  N  E  N
28081 - ATCGCCAACAATGTTAATGTTAACACGTTCACGACTCAGTATCTCAAGGAGATCCTCATT - 28140
       - I  A  N  N  V  N  V  N  T  F  T  T  Q  Y  L  K  E  I  L  I
       - S  P  T  M  L  M  L  T  R  S  R  L  S  I  S  R  R  S  S  F
       - R  Q  Q  C  *  C  *  H  V  H  D  S  V  S  Q  G  D  P  H  S
28141 - CAAGGTCTCCACATTGTCACCAGTAATGCCAGTATGGCCTGAGCCAATATCAGCACTAGC - 28200
       - Q  G  L  H  I  V  T  S  N  A  S  M  A  *  A  N  I  S  T  S
       - K  V  S  T  L  S  P  V  M  P  V  W  P  E  P  I  S  A  L  A
       - R  S  P  H  C  H  Q  *  C  Q  Y  G  L  S  Q  Y  Q  H  *  H
28201 - ACGAGGAACCCAGTAGGCACGCTTATTATAGCAGCCAACATAGGCAAACACACAGCCTCC - 28260
       - T  R  N  P  V  G  T  L  I  I  A  A  N  I  G  K  H  T  A  S
       - R  G  T  Q  *  A  R  L  L  *  Q  P  T  *  A  N  T  Q  P  P
       - E  E  P  S  R  H  A  Y  Y  S  S  Q  H  R  Q  T  H  S  L  Q
28261 - AAAACATCTAGTCCTACCTCCCTTGCGGAGTCGAGTTTCAATGTTTGAGTGGTTGTGATA - 28320
       - K  T  S  S  P  T  S  L  A  E  S  S  F  N  V  *  V  V  V  I
       - K  H  L  V  L  P  P  L  R  S  R  V  S  M  F  E  W  L  *  *
       - N  I  *  S  Y  L  P  C  G  V  E  F  Q  C  L  S  G  C  D  N
28321 - ATCTGCAACACTATGCTCAGGTCCAATCTCTGGGTCTTGACAGGCAGGACATGGCATTTT - 28380
       - I  C  N  T  M  L  R  S  N  L  W  V  L  T  G  R  T  W  H  F
       - S  A  T  L  C  S  G  P  I  S  G  S  *  Q  A  G  H  G  I  F
       - L  Q  H  Y  A  Q  V  Q  S  L  G  L  D  R  Q  D  M  A  F  S
28381 - CACTACAGCATTAGTAGGTAGGTACCCACATGTAGTAGGTCCTTCAATAACTAAATTTTC - 28440
       - H  Y  S  I  S  R  *  V  P  T  C  S  R  S  F  N  N  *  I  F
       - T  T  A  L  V  G  R  Y  P  H  V  V  G  P  S  I  T  K  F  S
       - L  Q  H  *  *  V  G  T  H  M  *  *  V  L  Q  *  L  N  F  Q
28441 - AGTGCCACAATGTTCACAAGTGGCTTTCAGAAAGTCGCACGTCTGCCATGAAACTTCATC - 28500
       - S  A  T  M  F  T  S  G  F  Q  K  V  A  R  L  P  *  N  F  I
       - V  P  Q  C  S  Q  V  A  F  R  K  S  H  V  C  H  E  T  S  S
       - C  H  N  V  H  K  W  L  S  E  S  R  T  S  A  M  K  L  H  R
28501 - GCAATGATTACATTTCATCAAGGTAGACAAGTGCATATTGTTACACTCCTGTGGAGATGC - 28560
       - A  M  I  T  F  H  Q  G  R  Q  V  H  I  V  T  L  L  W  R  C
       - Q  *  L  H  F  I  K  V  D  K  C  I  L  L  H  S  C  G  D  A
       - N  D  Y  I  S  S  R  *  T  S  A  Y  C  Y  T  P  V  E  M  Q
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FIG. 12 Con't

28561 - AACAGGGTACACAGAGCGTATACGCCCCATGAAACCCTCAGTCTTTTTCTTTTCAACACG - 28620
- N R V H R A Y T P H E T L S L F L F N T
- T G Y T E R I R P M K P S V F F F S T R
- Q G T Q S V Y A P * N P Q S F S F Q H V

28621 - TGGTTGAATGACTTTGACTTTTGAGTTAAGAGGAAACACAAACTTTGGGCATTCCCCTTT - 28680
- W L N D F D F * V K R K H K L W A F P F
- G * M T L T F E L R G N T N F G H S P L
- V E * L * L L S * E E T Q T L G I P L *

28681 - GAAAGTGTCAAATTTCTTGGCACTCTTAATTTCGAAGGGTGTCTGGTGCTCGTAGCTCTT - 28740
- E S V K F L G T L N F E G C L V L V A L
- K V S N F L A L L I S K G V W C S * L L
- K C Q I S W H S * F R R V S G A R S S Y

28741 - ATCAGAGCGCTCAGTGAACCAGGCAATTTCATGCTCATGGTCACGGCAGCAGTAGACACC - 28800
- I R A L S E P G N F M L M V T A A V D T
- S E R S V N Q A I S C S W S R Q Q * T P
- Q S A Q * T R Q F H A H G H G S S R H L

28801 - TCTCTTCGACTCGATGTAATCAAGTTGTTCGGAAAGAGTGCACATTGACTTGCCCGCGCG - 28860
- S L R L D V I K L F G K S A H * L A R A
- L F D S M * S S C S E R V H I D L P A R
- S S T R C N Q V V R K E C T L T C P R V

28861 - TGCGAGAAAATCTTTGATGCAATCAAGAGGGTACCCATCTGGGCCACAGAAATTGTTGTC - 28920
- C E K I F D A I K R V P I W A T E I V V
- A R K S L M Q S R G Y P S G P Q K L L S
- R E N L * C N Q E G T H L G H R N C C R

28921 - GACATAGCGAGTGACTGCACCTCCATTGAGCTCACGAGTGAGTTCACGGAGTGCACCACT - 28980
- D I A S D C T S I E L T S E F T E C T T
- T * R V T A P P L S S R V S S R S A P L
- H S E * L H L H * A H E * V H G V H H C

28981 - GCCATGCTTAGTGTTCCAGTTTTGTTCATAATCTTCAATGGGATCAGTGCCAAGCTCGTC - 29040
- A M L S V P V L F I I F N G I S A K L V
- P C L V F Q F C S * S S M G S V P S S S
- H A * C S S F V H N L Q W D Q C Q A R H

29041 - ACCTAAGTCATAAGACTTTAGATCGATGCCATAGCTATGACCACCGGCTCCCTTATTACC - 29100
- T * V I R L * I D A I A M T T G S L I T
- P K S * D F R S M P * L * P P A P L L P
- L S H K T L D R C H S Y D H R L P Y Y R

29101 - GTTCTTACGAAGAAGAACATTGCGGTATGCAATTGGGGTTTCGCCCACATGTGGCACGAG - 29160
- V L T K K N I A V C N W G F A H M W H E
- F L R R R T L R Y A I G V S P T C G T S
- S Y E E E H C G M Q L G F R P H V A R V

29161 - TACTCCCAGTGTTATACCGCTACGACCGTACTGAATGCCGTCCATTTCTGCAACCAGCTC - 29220
- Y S Q C Y T A T T V L N A V H F C N Q L
- T P S V I P L R P Y * M P S I S A T S S
- L P V L Y R Y D R T E C R P F L Q P A Q

29221 - AACGACCTTGTGGCCGTGATTGGTGCTTAAGGCATCAGAACGTTTAATGAACACATAGGG - 29280
- N D L V A V I G A * G I R T F N E H I G
- T T L W P * L V L K A S E R L M N T * G
- R P C G R D W C L R H Q N V * * T H R A

29281 - CTGTTCAAGCTGGGGCAGTACGCCTTTTTCCAGCTCTACTAGACCACAAGTGCCATTTTT - 29340
- L F K L G Q Y A F F Q L Y * T T S A I F
- C S S W G S T P F S S S T R P Q V P F L
- V Q A G A V R L F P A L L D H K C H F *

29341 - GAGGTGTTCACGTGCCTCCGATAGGGCCTCTTCCACAGAGTCCCCGAAGCCACGCACTAG - 29400
- E V F T C L R * G L F H R V P E A T H *
- R C S R A S D R A S S T E S P K P R T S
- G V H V P P I G P L P Q S P R S H A L A

FIG. 12 Con't

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29401 - CACGTCTCTAACCTGAAGGACAGGCAAACTGAGTTGGACGTGTGTTTTCTCGTTGACACC - 29460
       - H   V   S   N   L   K   D   R   Q   T   E   L   D   V   C   F   L   V   D   T
       - T   S   L   T   *   R   T   G   K   L   S   W   T   C   V   F   S   L   T   P
       - R   L   *   P   E   G   Q   A   N   *   V   G   R   V   F   S   R   *   H   Q
29461 - AAGAACAAGGCTCTCCATCTTACCTTTCGGTCACACCCGGACGAAACCTAGGTATGCTGA - 29520
       - K   N   K   A   L   H   L   T   F   R   S   H   P   D   E   T   *   V   C   *
       - R   T   R   L   S   I   L   P   F   G   H   T   R   T   K   P   R   Y   A   D
       - E   Q   G   S   P   S   Y   L   S   V   T   P   G   R   N   L   G   M   L   M
29521 - TGATCGACTGCAACACGGACGAAACCGTAAGCAGTCTGCAGAAGAGGGACGAGTTACTCG - 29580
       - *   S   T   A   T   R   T   K   P   *   A   V   C   R   R   G   T   S   Y   S
       - D   R   L   Q   H   G   R   N   R   K   Q   S   A   E   E   G   R   V   T   R
       - I   D   C   N   T   D   E   T   V   S   S   L   Q   K   R   D   E   L   L   V
29581 - TTTCTTGTCAACGACAGTAAAATTTATTATTGTTTATACTGCGTAGGTGCACTAGGCATG - 29640
       - F   L   V   N   D   S   K   I   Y   Y   C   L   Y   C   V   G   A   L   G   M
       - F   L   S   T   T   V   K   F   I   I   V   Y   T   A   *   V   H   *   A   C
       - S   C   Q   R   Q   *   N   L   L   L   F   I   L   R   R   C   T   R   H   A
29641 - CAGCCGAGCGACAGCTACACAGATTTTAAAGTTCGTTTAGAGAACAGATCTACAAGAGAT - 29700
       - Q   P   S   D   S   Y   T   D   F   K   V   R   L   E   N   R   S   T   R   D
       - S   R   A   T   A   T   Q   I   L   K   F   V   *   R   T   D   L   Q   E   I
       - A   E   R   Q   L   H   R   F   *   S   S   F   R   E   Q   I   Y   K   R   S
29701 - CGAGGTTGGTTGGCTTTTCCTGGGTAGGTAAAAACCTAATAT - 29742
       - R   G   W   L   A   F   P   G   *   V   K   T   *   Y   X
       - E   V   G   W   L   F   L   G   R   *   K   P   N   X
       - R   L   V   G   F   S   W   V   G   K   N   L   I   X
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FIG. 12 Con't

N-gene primers (nucleotide position 29247-29410)
150# (5'-gactgatgaagctcaggcctt-3')
200# (5'-cttgtgtggtcatcatgagtg-3')

S-gene primers (nucleotide position 24751-25049)
131# (5'-cacagaggaacttctttt-3')
132# (5'-tcccaattcttgaaggtcaatgag-3')

FIG. 13

ATGTCTGATAATGGACCCCAATCAAACCAACGTAGTGCCCCCCGCATTACATTTGGTGGA

CCCACAGATTCAACTGACAATAACCAGAATGGAGGACGCAATGGGGCAAGGCCAAAACAG

CGCCGACCCCAAGGTTTACCCAATAATACTGCGTCTTGGTTCACAGCTCTCACTCAGCAT

GGCAAGGAGGAACTTAGATTCCCTCGAGGCCAGGGCGTTCCAATCAACACCAATAGTGGT

CCAGATGACCAAATTGGCTACTACCGAAGAGCTACCCGACGAGTTCGTGGTGGTGACGGC

AAAATGAAAGAGCTCAGCCCCAGATGGTACTTCTATTACCTAGGAACTGGCCCAGAAGCT

TCACTTCCCTACGGCGCTAACAAAGAAGGCATCGTATGGGTTGCAACTGAGGGAGCCTTG

AATACACCCAAAGACCACATTGGCACCCGCAATCCTAATAACAATGCTGCCACCGTGCTA

CAACTTCCTCAAGGAACAACATTGCCAAAAGGCTTCTACGCAGAGGGAAGCAGAGGCGGC

AGTCAAGCCTCTTCTCGCTCCTCATCACGTAGTCGCGGTAATTCAAGAAATTCAACTCCT

GGCAGCAGTAGGGGAAATTCTCCTGCTCGAATGGCTAGCGGAGGTGGTGAAACTGCCCTC

GCGCTATTGCTGCTAGACAGATTGAACCAGCTTGAGAGCAAAGTTTCTGGTAAAGGCCAA

CAACAACAAGGCCAAACTGTCACTAAGAAATCTGCTGCTGAGGCATCTAAAAAGCCTCGC

CAAAAACGTACTGCCACAAAACAGTACAACGTCACTCAAGCATTTGGGAGACGTGGTCCA

GAACAAACCCAAGGAAATTTCGGGGACCAAGACCTAATCAGACAAGGAACTGATTACAAA

CATTGGCCGCAAATTGCACAATTTGCTCCAAGTGCCTCTGCATTCTTTGGAATGTCACGC

ATTGGCATGGAAGTCACACCTTCGGGAACATGGCTGACTTATCATGGAGCCATTAAATTG

GATGACAAAGATCCACAATTCAAAGACAACGTCATACTGCTGAACAAGCACATTGACGCA

TACAAAACATTCCCACCAACAGAGCCTAAAAAGGACAAAAGAAAAAGACTGATGAAGCT

CAGCCTTTGCCGCAGAGACAAAAGAAGCAGCCCACTGTGACTCTTCTTCCTGCGGCTGAC

ATGGATGATTTCTCCAGACAACTTCAAAATTCCATGAGTGGAGCTTCTGCTGATTCAACT

CAGGCATAA

FIG. 14A

MSDNGPQSNQRSAPRITFGGPTDSTDNNQNGGRNGARPKQRRPQGLPNNTASWFTALTQH

GKEELRFPRGQGVPINTNSGPDDQIGYYRRATRRVRGGDGKMKELSPRWYFYYLGTGPEA

SLPYGANKEGIVWVATEGALNTPKDHIGTRNPNNNAATVLQLPQGTTLPKGFYAEGSRGG

SQASSRSSSRSRGNSRNSTPGSSRGNSPARMASGGGETALALLLLDRLNQLESKVSGKGQ

QQQGQTVTKKSAAEASKKPRQKRTATKQYNVTQAFGRRGPEQTQGNFGDQDLIRQGTDYK

HWPQIAQFAPSASAFFGMSRIGMEVTPSGTWLTYHGAIKLDDKDPQFKDNVILLNKHIDA

YKTFPPTEPKKDKKKKTDEAQPLPQRQKKQPTVTLLPAADMDDFSRQLQNSMSGASADST

QA

FIG. 14B

ATGTTTATTTTCTTATTATTTCTTACTCTCACTAGTGGTAGTGACCTTGACCGGTGCACCACTTT

TGATGATGTTCAAGCTCCTAATTACACTCAACATACTTCATCTATGAGGGGGGTTTACTATCCTG

ATGAAATTTTTAGATCAGACACTCTTTATTTAACTCAGGATTTATTTCTTCCATTTTATTCTAAT

GTTACAGGGTTTCATACTATTAATCATACGTTTGGCAACCCTGTCATACCTTTTAAGGATGGTAT

TTATTTTGCTGCCACAGAGAAATCAAATGTTGTCCGTGGTTGGGTTTTTGGTTCTACCATGAACA

ACAAGTCACAGTCGGTGATTATTATTAACAATTCTACTAATGTTGTTATACGAGCATGTAACTTT

GAATTGTGTGACAACCCTTTCTTTGCTGTTTCTAAACCCATGGGTACACAGACACATACTATGAT

ATTCGATAATGCATTTAATTGCACTTTCGAGTACATATCTGATGCCTTTTCGCTTGATGTTTCAG

AAAAGTCAGGTAATTTTAAACACTTACGAGAGTTTGTGTTTAAAAATAAAGATGGGTTTCTCTAT

GTTTATAAGGGCTATCAACCTATAGATGTAGTTCGTGATCTACCTTCTGGTTTTAACACTTTGAA

ACCTATTTTTAAGTTGCCTCTTGGTATTAACATTACAAATTTTAGAGCCATTCTTACAGCCTTTT

CACCTGCTCAAGACATTTGGGGCACGTCAGCTGCAGCCTATTTTGTTGGCTATTTAAAGCCAACT

ACATTTATGCTCAAGTATGATGAAAATGGTACAATCACAGATGCTGTTGATTGTTCTCAAAATCC

ACTTGCTGAACTCAAATGCTCTGTTAAGAGCTTTGAGATTGACAAAGGAATTTACCAGACCTCTA

ATTTCAGGGTTGTTCCCTCAGGAGATGTTGTGAGATTCCCTAATATTACAAACTTGTGTCCTTTT

GGAGAGGTTTTTAATGCTACTAAATTCCCTTCTGTCTATGCATGGGAGAGAAAAAAATTTCTAA

TTGTGTTGCTGATTACTCTGTGCTCTACAACTCAACATTTTTTTCAACCTTTAAGTGCTATGGCG

TTTCTGCCACTAAGTTGAATGATCTTTGCTTCTCCAATGTCTATGCAGATTCTTTTGTAGTCAAG

GGAGATGATGTAAGACAAATAGCGCCAGGACAAACTGGTGTTATTGCTGATTATAATTATAAATT

GCCAGATGATTTCATGGGTTGTGTCCTTGCTTGGAATACTAGGAACATTGATGCTACTTCAACTG

GTAATTATAATTATAAATATAGGTATCTTAGACATGGCAAGCTTAGGCCCTTTGAGAGAGACATA

TCTAATGTGCCTTTCTCCCCTGATGGCAAACCTTGCACCCCACCTGCTCTTAATTGTTATTGGCC

ATTAAATGATTATGGTTTTTACACCACTACTGGCATTGGCTACCAACCTTACAGAGTTGTAGTAC

TTTCTTTTGAACTTTTAAATGCACCGGCCACGGTTTGTGGACCAAAATTATCCACTGACCTTATT

AAGAACCAGTGTGTCAATTTTAATTTTAATGGACTCACTGGTACTGGTGTGTTAACTCCTTCTTC

AAAGAGATTTCAACCATTTCAACAATTTGGCCGTGATGTTTCTGATTTCACTGATTCCGTTCGAG

ATCCTAAAACATCTGAAATATTAGACATTTCACCTTGCTCTTTTGGGGGTGTAAGTGTAATTACA

CCTGGAACAAATGCTTCATCTGAAGTTGCTGTTCTATATCAAGATGTTAACTGCACTGATGTTTC

TACAGCAATTCATGCAGATCAACTCACACCAGCTTGGCGCATATATTCTACTGGAAACAATGTAT

FIG. 15A

TCCAGACTCAAGCAGGCTGTCTTATAGGAGCTGAGCATGTCGACACTTCTTATGAGTGCGACATT
CCTATTGGAGCTGGCATTTGTGCTAGTTACCATACAGTTTCTTTATTACGTAGTACTAGCCAAAA
ATCTATTGTGGCTTATACTATGTCTTTAGGTGCTGATAGTTCAATTGCTTACTCTAATAACACCA
TTGCTATACCTACTAACTTTTCAATTAGCATTACTACAGAAGTAATGCCTGTTTCTATGGCTAAA
ACCTCCGTAGATTGTAATATGTACATCTGCGGAGATTCTACTGAATGTGCTAATTTGCTTCTCCA
ATATGGTAGCTTTTGCACACAACTAAATCGTGCACTCTCAGGTATTGCTGCTGAACAGGATCGCA
ACACACGTGAAGTGTTCGCTCAAGTCAAACAAATGTACAAAACCCCAACTTTGAAATATTTTGGT
GGTTTTAATTTTTCACAAATATTACCTGACCCTCTAAAGCCAACTAAGAGGTCTTTTATTGAGGA
CTTGCTCTTTAATAAGGTGACACTCGCTGATGCTGGCTTCATGAAGCAATATGGCGAATGCCTAG
GTGATATTAATGCTAGAGATCTCATTTGTGCGCAGAAGTTCAATGGACTTACAGTGTTGCCACCT
CTGCTCACTGATGATATGATTGCTGCCTACACTGCTGCTCTAGTTAGTGGTACTGCCACTGCTGG
ATGGACATTTGGTGCTGGCGCTGCTCTTCAAATACCTTTTGCTATGCAAATGGCATATAGGTTCA
ATGGCATTGGAGTTACCCAAAATGTTCTCTATGAGAACCAAAAACAAATCGCCAACCAATTTAAC
AAGGCGATTAGTCAAATTCAAGAATCACTTACAACAACATCAACTGCATTGGGCAAGCTGCAAGA
CGTTGTTAACCAGAATGCTCAAGCATTAAACACACTTGTTAAACAACTTAGCTCTAATTTTGGTG
CAATTTCAAGTGTGCTAAATGATATCCTTTCGCGACTTGATAAAGTCGAGGCGGAGGTACAAATT
GACAGGTTAATTACAGGCAGACTTCAAAGCCTTCAAACCTATGTAACACAACAACTAATCAGGGC
TGCTGAAATCAGGGCTTCTGCTAATCTTGCTGCTACTAAAATGTCTGAGTGTGTTCTTGGACAAT
CAAAAAGAGTTGACTTTTGTGGAAAGGGCTACCACCTTATGTCCTTCCCACAAGCAGCCCCGCAT
GGTGTTGTCTTCCTACATGTCACGTATGTGCCATCCCAGGAGAGGAACTTCACCACAGCGCCAGC
AATTTGTCATGAAGGCAAAGCATACTTCCCTCGTGAAGGTGTTTTTGTGTTTAATGGCACTTCTT
GGTTTATTACACAGAGGAACTTCTTTTCTCCACAAATAATTACTACAGACAATACATTTGTCTCA
GGAAATTGTGATGTCGTTATTGGCATCATTAACAACACAGTTTATGATCCTCTGCAACCTGAGCT
TGACTCATTCAAAGAAGAGCTGGACAAGTACTTCAAAAATCATACATCACCAGATGTTGATCTTG
GCGACATTTCAGGCATTAACGCTTCTGTCGTCAACATTCAAAAGAAATTGACCGCCTCAATGAG
GTCGCTAAAAATTTAAATGAATCACTCATTGACCTTCAAGAATTGGGAAAATATGAGCAATATAT
TAAATGGCCTTGGTATGTTTGGCTCGGCTTCATTGCTGGACTAATTGCCATCGTCATGGTTACAA
TCTTGCTTTGTTGCATGACTAGTTGTTGCAGTTGCCTCAAGGGTGCATGCTCTTGTGGTTCTTGC
TGCAAGTTTGATGAGGATGACTCTGAGCCAGTTCTCAAGGGTGTCAAATTACATTACACATAA

FIG. 15A Con't

MFIFLLFLTLTSGSDLDRCTTFDDVQAPNYTQHTSSMRGVYYPDEIFRSDTLYLTQDLFL

PFYSNVTGFHTINHTFGNPVIPFKDGIYFAATEKSNVVRGWVFGSTMNNKSQSVIIINNS

TNVVIRACNFELCDNPFFAVSKPMGTQTHTMIFDNAFNCTFEYISDAFSLDVSEKSGNFK

HLREFVFKNKDGFLYVYKGYQPIDVVRDLPSGFNTLKPIFKLPLGINITNFRAILTAFSP

AQDIWGTSAAAYFVGYLKPTTFMLKYDENGTITDAVDCSQNPLAELKCSVKSFEIDKGIY

QTSNFRVVPSGDVVRFPNITNLCPFGEVFNATKFPSVYAWERKKISNCVADYSVLYNSTF

FSTFKCYGVSATKLNDLCFSNVYADSFVVKGDDVRQIAPGQTGVIADYNYKLPDDFMGCV

LAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERDISNVPFSPDGKPCTPPALNCYWPLND

YGFYTTTGIGYQPYRVVVLSFELLNAPATVCGPKLSTDLIKNQCVNFNFNGLTGTGVLTP

SSKRFQPFQQFGRDVSDFTDSVRDPKTSEILDISPCSFGGVSVITPGTNASSEVAVLYQD

VNCTDVSTAIHADQLTPAWRIYSTGNNVFQTQAGCLIGAEHVDTSYECDIPIGAGICASY

HTVSLLRSTSQKSIVAYTMSLGADSSIAYSNNTIAIPTNFSISITTEVMPVSMAKTSVDC

NMYICGDSTECANLLLQYGSFCTQLNRALSGIAAEQDRNTREVFAQVKQMYKTPTLKYFG

GFNFSQILPDPLKPTKRSFIEDLLFNKVTLADAGFMKQYGECLGDINARDLICAQKFNGL

TVLPPLLTDDMIAAYTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYE

NQKQIANQFNKAISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLN

DILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSK

RVDFCGKGYHLMSFPQAAPHGVVFLHVTYVPSQERNFTTAPAICHEGKAYFPREGVFVFN

GTSWFITQRNFFSPQIITTDNTFVSGNCDVVIGIINNTVYDPLQPELDSFKEELDKYFKN

HTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWPWYVWL

GFIAGLIAIVMVTILLCCMTSCCSCLKGACSCGSCCKFDEDDSEPVLKGVKLHYT

FIG. 15B
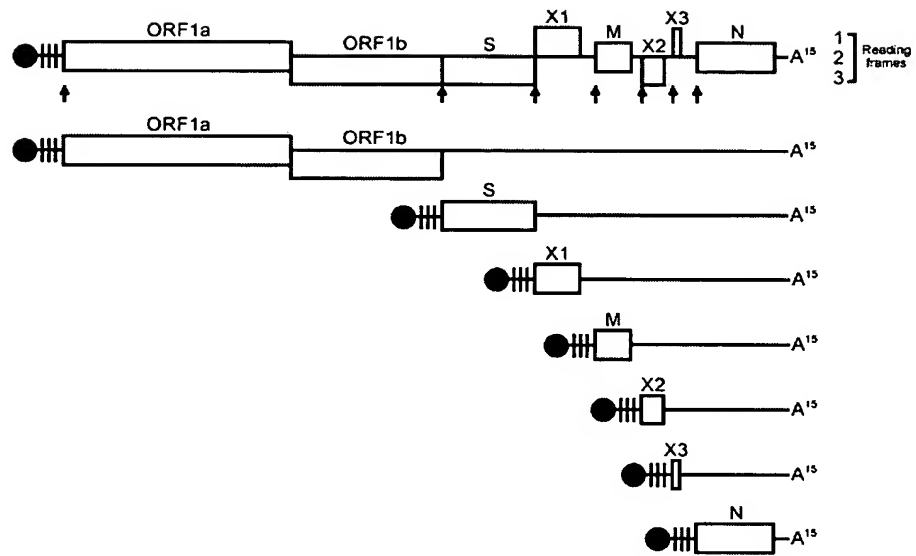
FIG. 16
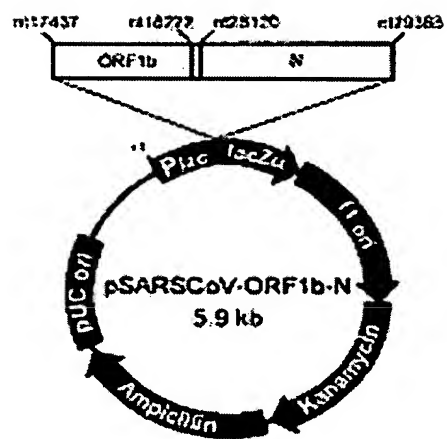
FIG. 17
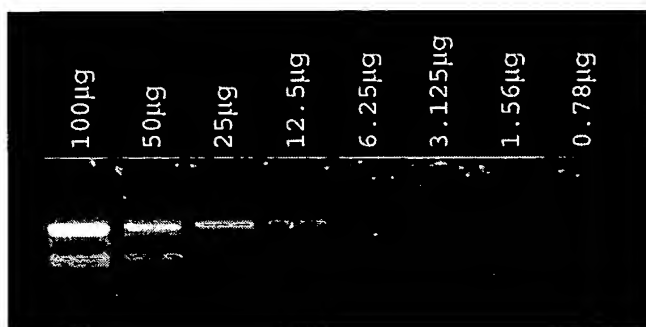
FIG. 18
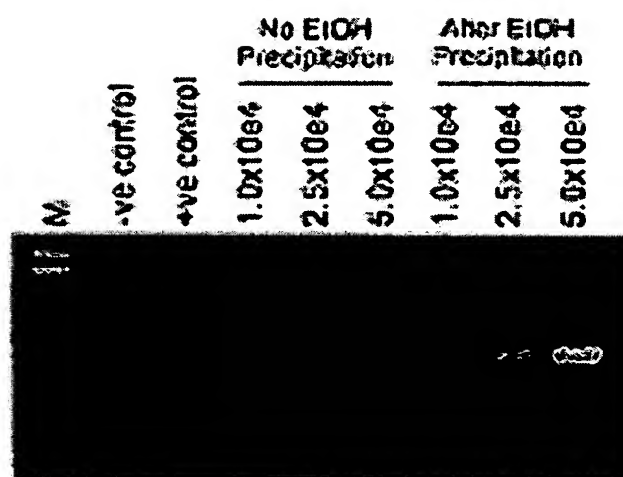
FIG. 19

- Primers for a 225-bp fragment of the region of N-gene that showed no homology to other coronavirus:

  SRS251: 5'-GCAGTCAAGCCTCTTCTCG-3' (SEQ ID NO:2480)

  SRS252: 5'-GCCTCAGCAGCAGATTTC-3' (SEQ ID NO:2481)

- Primers for 181-bp fragment of the region of 1b-gene:

  coro3: 5'-TACACACCTCAGCGTTG-3' (SEQ ID NO:3)

  coro4: 5'- CACGAACGTGACGAAT-3' (SEQ ID NO:4)

- Primers for a 745-bp fragment from pig β-actin gene:

  Actin-F: 5'-TGAGACCTTCAACACGCC-3' (SEQ ID NO:2482)

  Actin-R: 5'-ATCTGCTGGAAGGTGGAC-3' (SEQ ID NO:2483)

FIG. 20
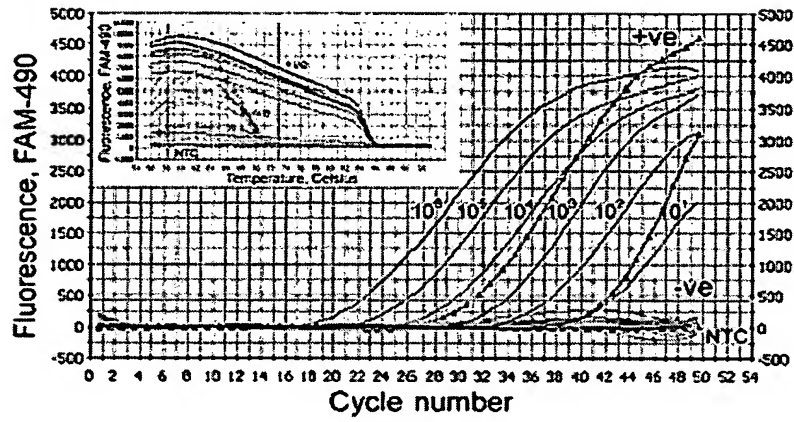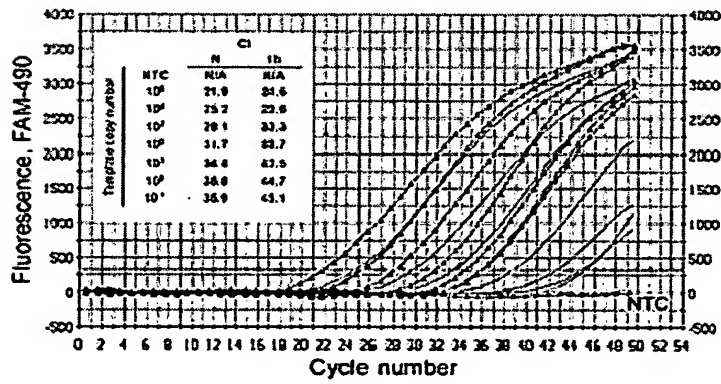
FIG. 21A

FIG. 21B
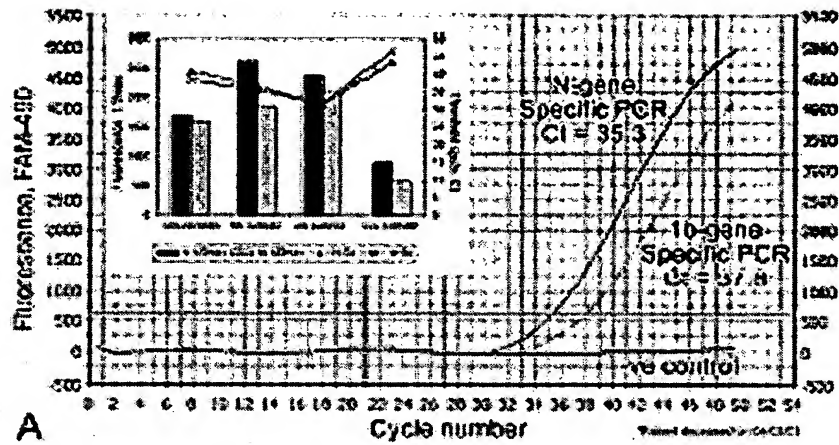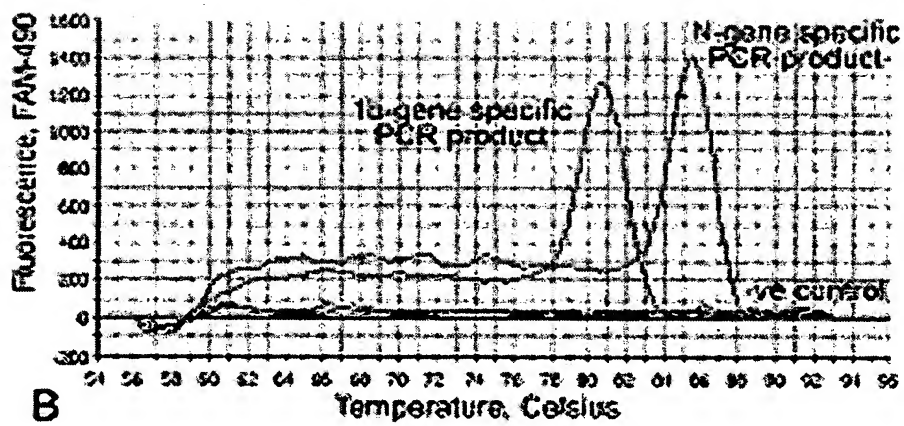
FIG. 22A

FIG. 22B
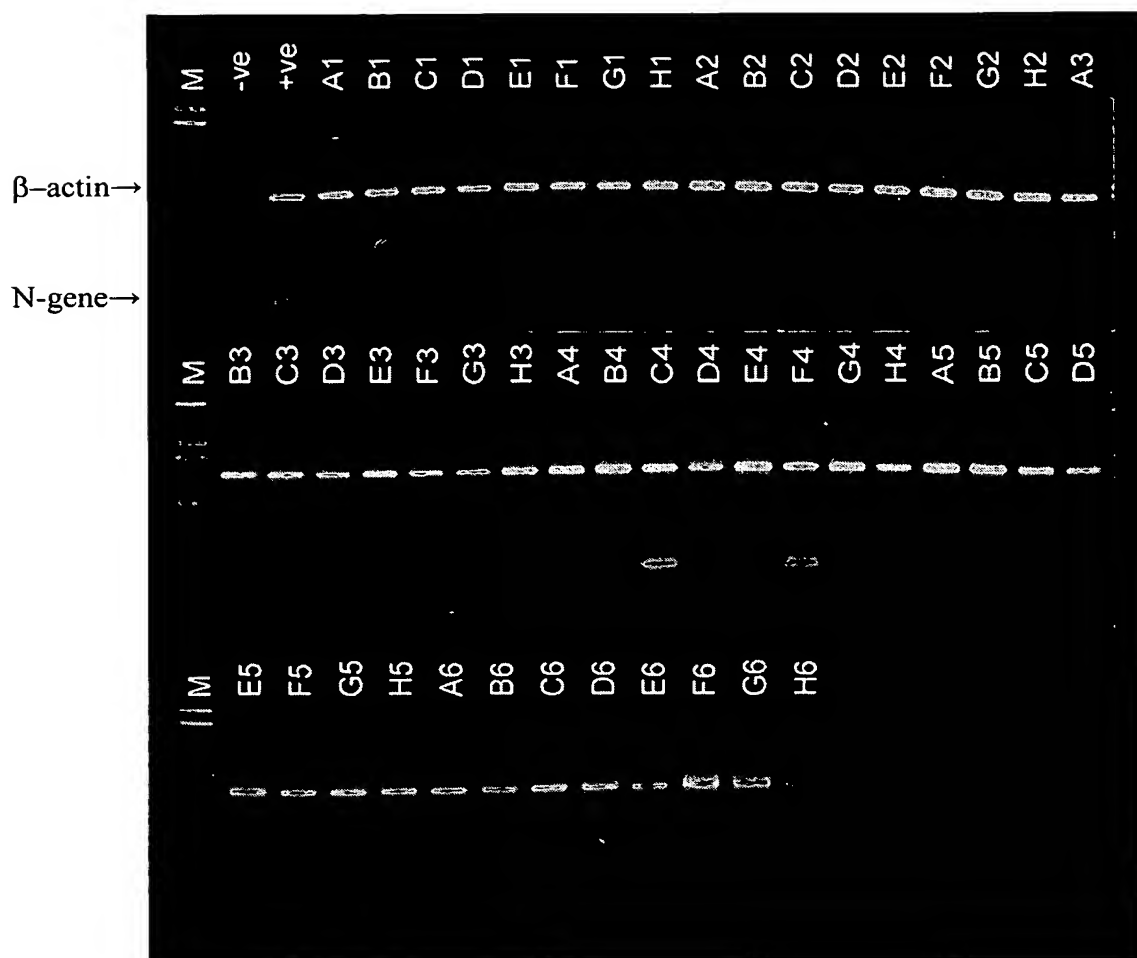
FIG. 23
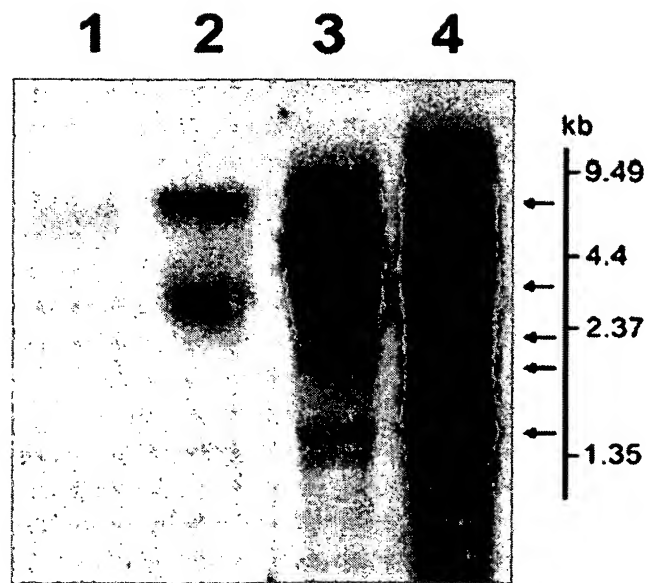
FIG. 24

Probe	Region	SEQ ID NO	Sequence
1b	18057–18222	2484	gatataaattcaagactgaaggattatgtgttgacataccaggcataccaaaggacat gacctaccgtagactcatctctatgatggggtttcaaaatgaattaccaagtcaatggttac cctaatatgtttatcacccgcgaagaaagctattcgttcgttcgtg
S	21920–22107	2485	catgggtacacagacacatactatgatattcgataatgcatttaattgcactttcgagtaca tatctgatgccttttcgcttgatgtttcagaaaagtcaggtaatttaaacacttacgagagt ttgtgtttaaaaataaagatgggtttctcatgtttataaggctatcaacctatagatgtag
M	26867–26996	2486	gctgtgacattaaggacctgccaaaagagatcactgtggctacatcacgaacgcttctt attacaaattaggagcgtcgcagcgtgtaggcactgattcaggttttgctgcatacaacc gctaccgtat
N	28658–28883	2487	gcagtcaagcctcttctgctcctcatcacgtagtcgcgtaattcaagaaattcaactc ctggcagcagtaggggaaattcctgctcgaatggctagcggaggtggtgaaactgc cctcgcgctattgctgctagacagattg

FIG. 25